Development and Evaluation of Future Transportation Improvement Options

6.0 Introduction

The development and evaluation of improvement options is a multi-step process.

The first step, establishing goals for the highway corridor, was key to the entire study process. Before the discussion of options began, the community was asked to develop goals that considered the needs of all transportation interests currently served by US 95. Considerable discussion and identification of needs and issues facing US 95 occurred within the advisory groups and among community members as they wrestled with this daunting task. At heart of this effort was the realization by community members that US 95 serves many different types of "customers", and that often the interests of these customers can be at odds. Even after the draft goals were established for the highway corridor, healthy community dialogue and debate continued, and continues today among the varied interest served by US 95.

Once draft goals were developed, identification and analysis of ideas for future projects began. Initially individual options were examined to assess their future performance. As the study work continued, individual options were combined into packages of overall solutions.

This chapter describes the development of goals, identification of ideas for future improvements, technical analysis of options, and refinement of the options into solution packages for the corridor.

Within the supporting documentation of this chapter, the reader may encounter the term "recommendations." During the course of the study, preliminary recommendations were posed based on early advisory group and community input. The resulting community reaction demonstrates that significant philosophical differences still exist among community members, and consensus on an overall master plan for US 95 is still out of reach.

> It is important to factually document the events of the study, however, **please note that a single solution package was not ultimately recommended at the conclusion of the study**. Instead, this chapter documents the options examined for US 95, along with the technical performance of, and community reaction to each. If a major project is championed by the community in the future, a full federal environmental evaluation will be undertaken to select a preferred alternative.

6.1 Goals Development

Early on, Study participants helped identify the major issues in the US 95 Corridor, including: traffic congestion and highway capacity, stopping at traffic signals, traffic back-ups on local streets, delay, travel times, traffic safety; and better accommodation for bikes and pedestrians. To address these issues a set of specific goals for the US 95 Coeur d'Alene Corridor Study were developed for review by the advisory groups. The goals provide the basis for the definition of the Plan's evaluation criteria. These goals, as refined by the advisory groups, are listed for the US 95 Corridor:

- Balance the need for mobility, safety, and access;
- Ensure the future performance and service level of US 95 as an urban, principal arterial;
- Design and manage the corridor to optimize safety and minimize congestion for motorists, pedestrians and bicyclists;

- Preserve the role of the US 95 facility as an intercity connector; and
- Help preserve the integrity of communities served by US 95 in Kootenai County.

6.1.1 Public Focus Group Meetings

A series of two separate focus group meetings were held with local residents on August 22 and 23, 2001. Participants were randomly recruited from the Coeur d'Alene area, with about 20 to 24 in attendance at each focus group meeting. They represented a mix of age, gender, and occupations. Participants were screened to exclude those who were members of a conservation, environmental, or planning group; or who said they were *very* involved in community and public affairs.

The purpose of these focus group meetings was to help confirm the US 95 Corridor Plan Goals. The focus group meetings were also intended to: (1) help confirm the improvement options in the US 95 corridor; (2) help identify possible changes to the type and number of improvement options; and finally, (3) determine (albeit indirectly) what techniques could and should be used to better communicate the plan process and future improvement options. **Appendix A-3** includes a full report of the August 2001 Focus Group Meetings.

The findings of the focus group meetings are included throughout this chapter, highlighting the community feedback and responses to the development and evaluation of improvement options in the US 95 corridor.

6.2 Overview of Study Area Segments and Major Options Considered

The purpose of this portion of the Study was to identify and evaluate each of the draft improvement options and, through the public involvement process, to discuss the advantages and challenges of each option and determine which ones merit further analysis. Conceptual transportation improvement ideas for the US 95 Corridor were defined initially based on input from the public (July 2000 open house meetings and public opinion research) and the advisory group meetings held in January 2001. The general options included:

- Local arterial improvements;
- Widening US 95 for more travel lanes;
- Constructing a new, alternate route – generally in the Huetter Road (north and south of the Spokane River) area;
- Reconstructing the US 95 route as an expressway (two sub-options – with and without frontage roads to provide local circulation and access along US 95); and
- Land Use and Traffic Management techniques.

6.2.1 Future Travel Conditions

The Kootenai County Transportation Planning Model (see **Appendix D**) was used to estimate future traffic conditions during the P.M. peak hour for each of the general options. By comparison to current year (2000) and to a future No-Build option, future year performance characteristics for each of the general improvement options were summarized to measure traffic conditions, both on US 95 (directly) and *system-wide* (on all state highways and arterial/collector streets) throughout the Coeur d'Alene/Hayden study area.

6.2.2 US 95 Traffic Characteristics

The section of US 95 between the Spokane River and Ohio Match Road was established as the baseline for comparison, and an indicator of how well each of the general options helps improve traffic conditions on US 95. This section of US 95 carries a combination of regional (with origins or destinations within the study area) and non-local, through-traffic.

The various traffic performance characteristics for US 95 are categorized in three groups including travel demand, traffic congestion, and performance. *Travel demand* measures are best summarized by vehicle miles of travel (VMT) and vehicle hours traveled (VHT) statistics. **Figure 6-1** and **Figure 6-2** respectively, show the US 95 VMT and VHT variation between the general improvement options. *Traffic congestion* measures are best summarized by vehicle hours of delay (VHD) and average delay on US 95. **Figure 6-3** and **Figure 6-4** show the US 95 VHD and average delay variation between the options. The estimated average travel time and average travel speeds on US 95 are the best measures to indicate *performance*. **Figures 6-5 and 6-6** illustrate the travel performance characteristics on US 95 for each of the options.

Note: While Figures 6-1 through 6-6 list the general improvement options, what is being measured is the travel demand, traffic congestion and performance measures of the existing US 95 route.

Figure 6-1. Vehicle Miles of Travel on US 95

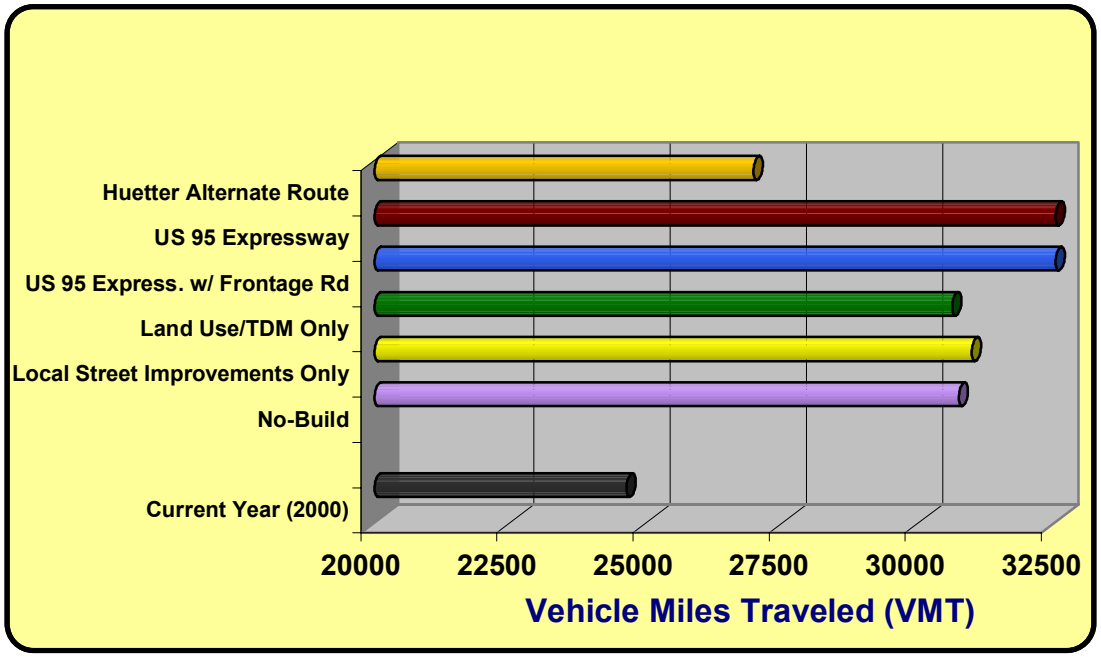


Figure 6-2. Vehicle Hours of Travel on US 95

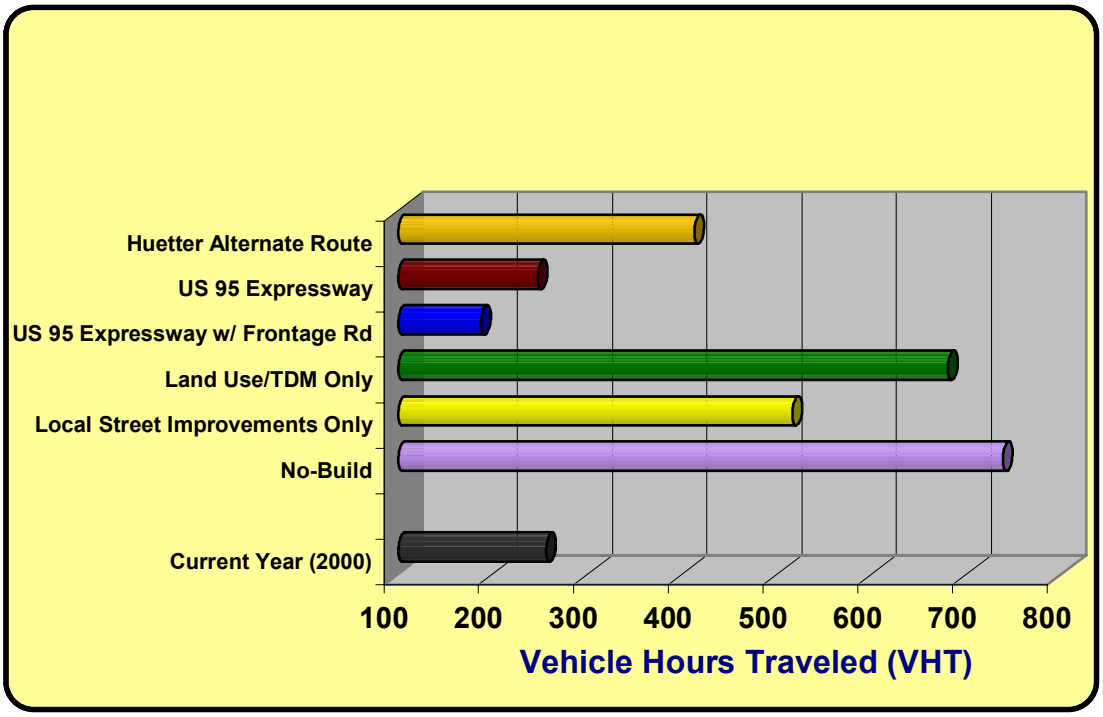


Figure 6.3. Vehicle Hours of Delay on US 95

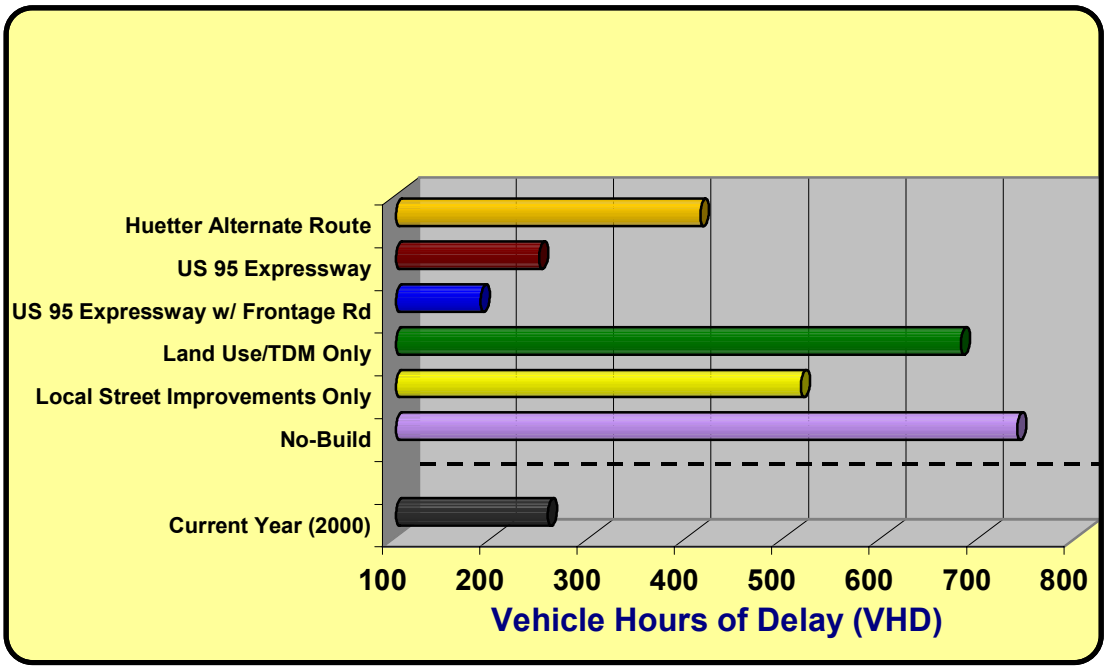


Figure 6-4. Average Delay on US 95

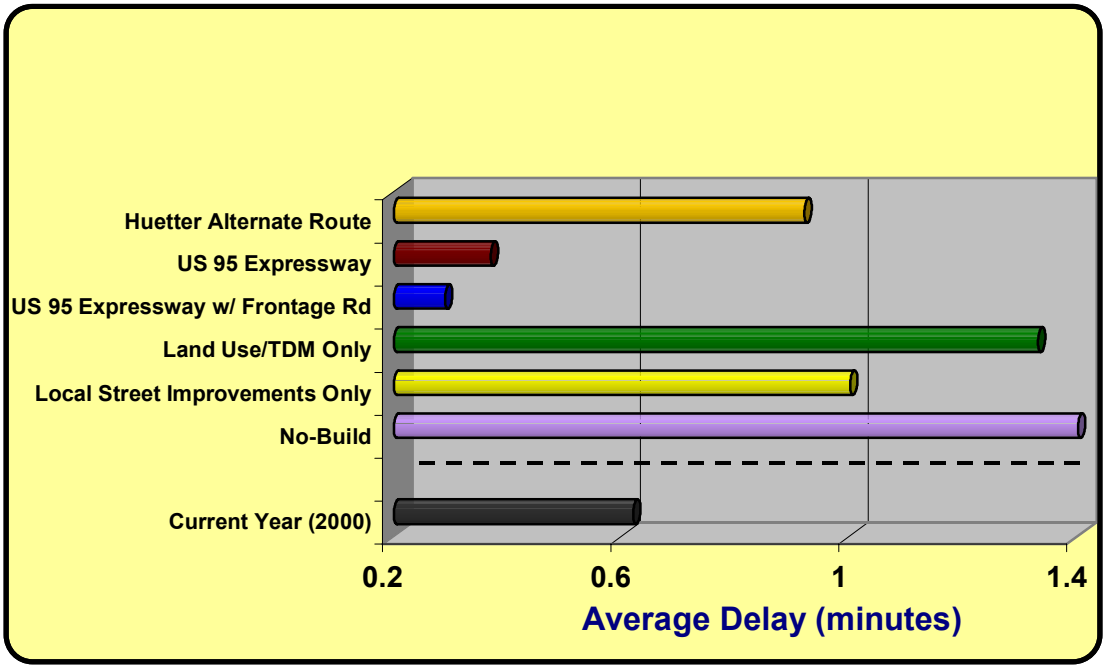


Figure 6-5. Average Travel Time on US 95

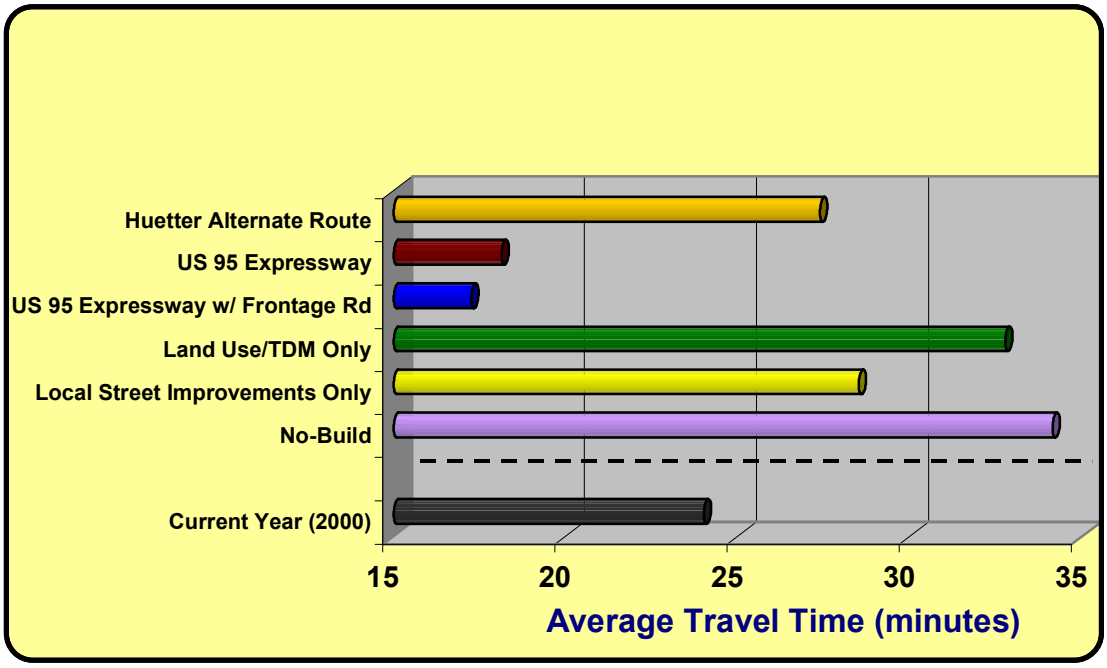
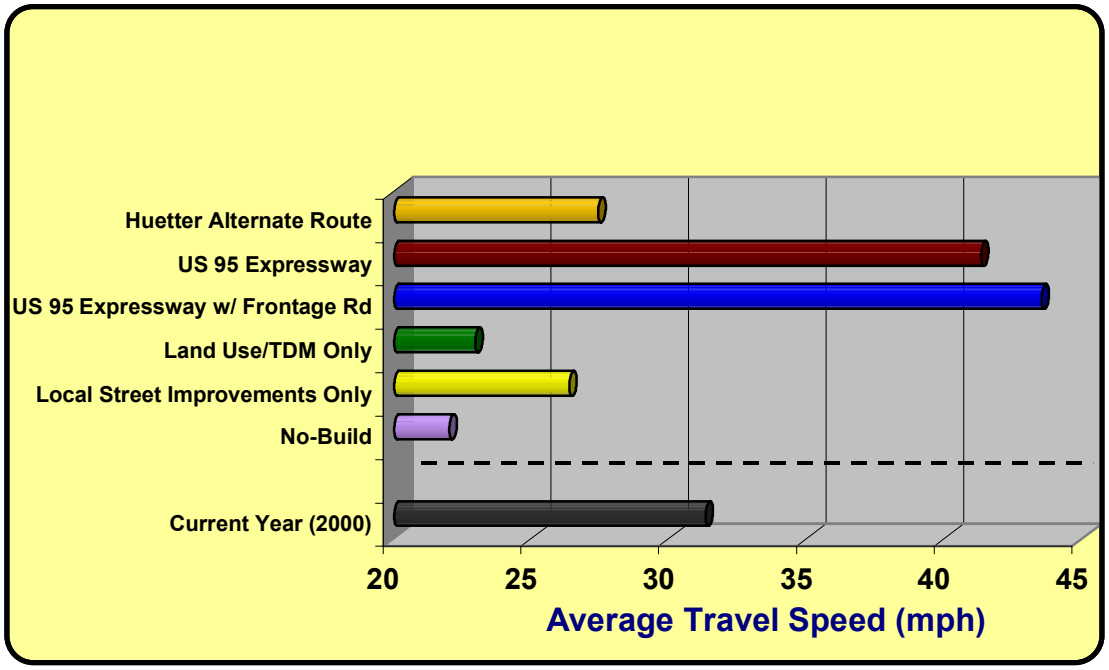


Figure 6-6. Average Travel Speed on US 95



Summary

The following summarizes the key findings and highlights of the travel demand modeling analysis of the various general options with respect to US 95 conditions.

Travel Demand

- Without improvements, VMT on US 95 will more than double during next 20 years.
- Without improvements, VHT on US 95 will more than quadruple during next 20 years.
- Of all the future improvement options, the Huetter Alternate Route provides the greatest reduction in VMT on the existing US 95.
- The US 95 Expressway with frontage roads provides the greatest reduction in VHT.

Traffic Congestion

- Without improvements, traffic congestion (delay) on US 95 will increase by a factor of four. This increased congestion on US 95 will have a negative impact on the local system. As delays increase at cross-street intersections, the affects of congestion on US 95 will ultimately be transmitted to other important collectors and arterials.
- US 95 is already at capacity during peak periods; travelers are likely using alternative routes (as was also identified in the origin-destination surveys).
- Local street improvements would significantly reduce congestion on US 95.
- Revised land use plans would have a minor impact to US 95.

Corridor Performance

- By 2020, it will take nearly twice as long to travel US 95 through the study area during the peak hour – if no improvements are made.
- The average travel speed on US 95 today is about 32 mph during the afternoon peak hour. By 2020, the average travel speed will be 22 mph during the pm peak hour if no improvements are made.
- Local street improvements alone will help improve the average speed on US 95 to 27 mph.
- By itself, the Huetter Alternate Route improvement will help improve the average speed on US 95 to about 28 mph.
- The US 95 Exp*r*essway option will improve US 95 travel speeds to 45 mph.

6.2.3 System-wide Traffic Characteristics

The system-wide traffic performance characteristics are best summarized by measures of vehicle miles of travel (VMT), vehicle hours traveled (VHT) and vehicle hours of delay (VHD). **Figures 6-7**, **6-8**, and **6-9**, respectively show the system-wide VHT, VmT, and VHD variation amongst the general improvement options.

Summary

For any options that adds capacity in the corridor VMT will likely increase, as VMT is currently restricted only by the existing system capacity.

The following summarizes the key findings of the modeling analysis the highlights of the travel demand modeling analysis of the various general options with respect to system-wide traffic conditions.

- The Huetter Road Alternate Route reduces overall congestion.
- The US 95 Expressway option (with Frontage Roads) will result in significantly reduced travel delay.
- Local street improvements will greatly help reduce congestion, while minimizing out-of-direction travel (compared to No-Build).
- Better-positioned land use will also help minimize out-of-direction travel (compared to No-Build).

Figure 6-7. System-Wide Vehicle Miles Traveled

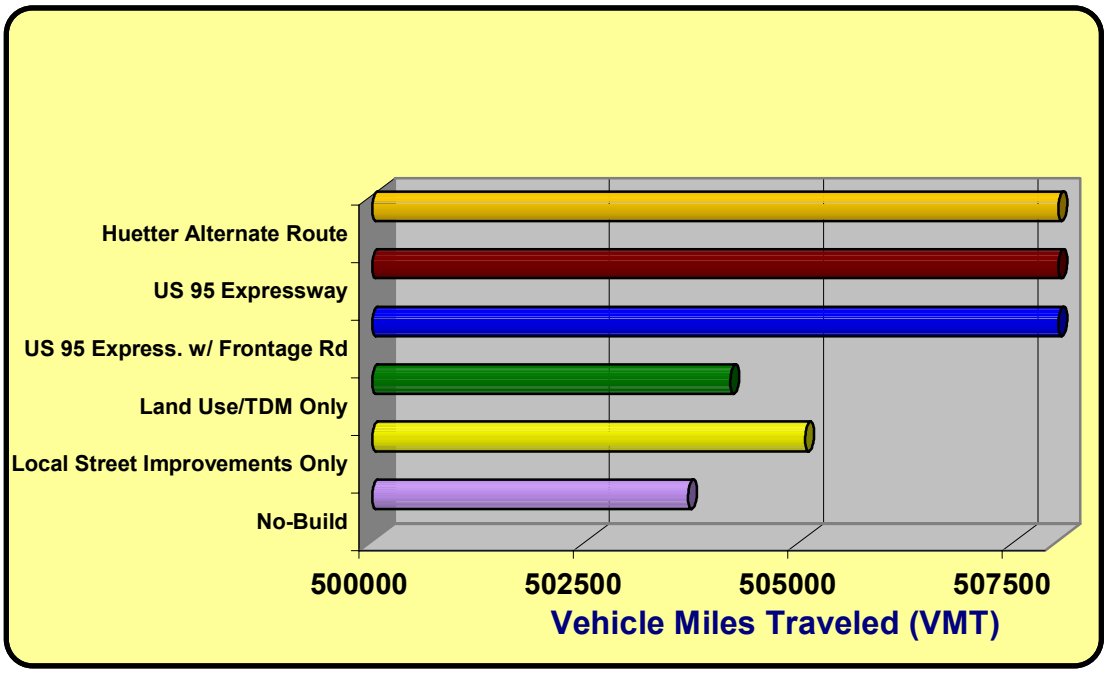


Figure 6-8. System-Wide Vehicle Hours Traveled

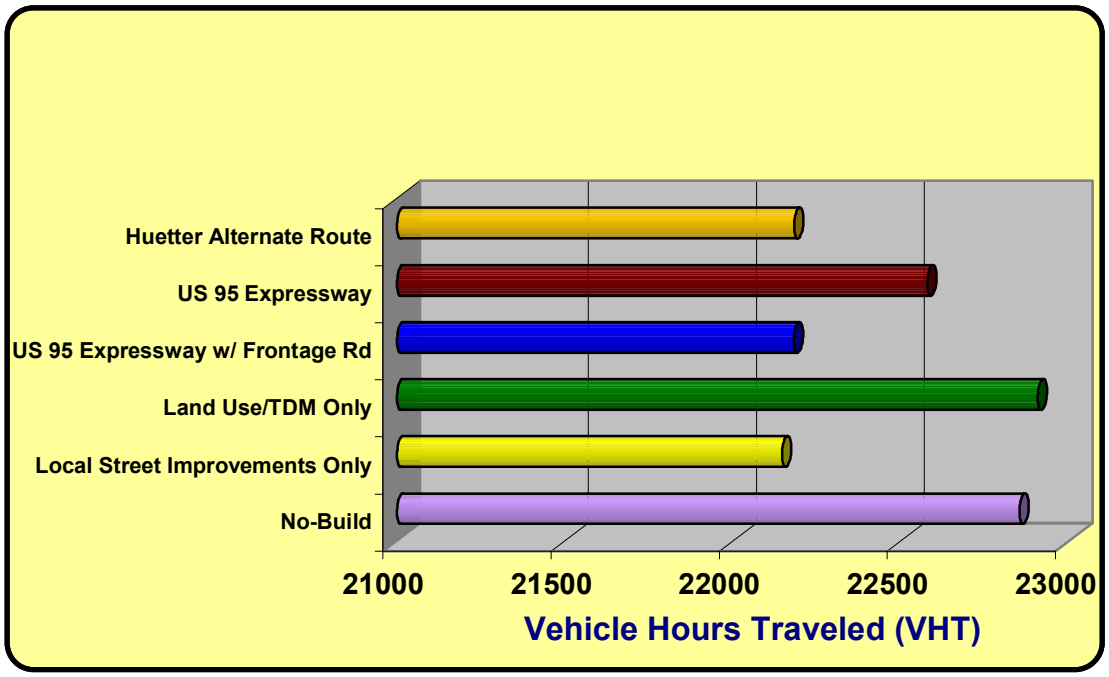
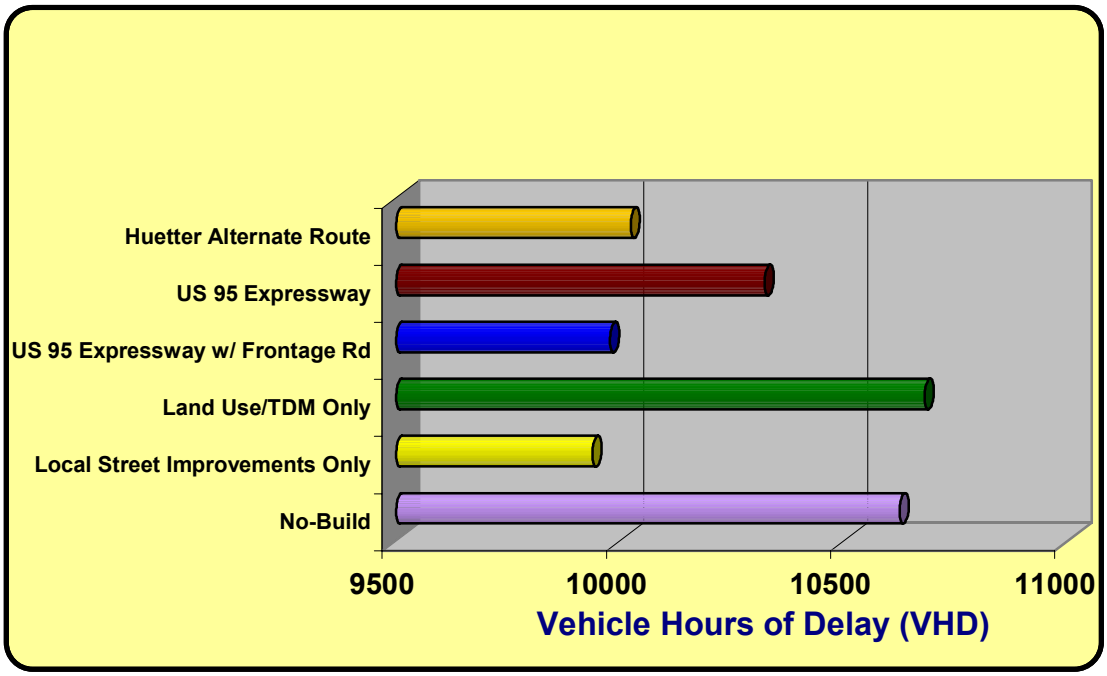


Figure 6-9. System-Wide Vehicle Hours of Delay



6.2.4 ITD Access Control Policy

To the degree possible, ITD's Access Control Policy (see **Appendix G**) was incorporated into the identification of future transportation improvement options for US 95. US 95 is classified as a *Principal Arterial* throughout the Study area. As previously summarized in Chapter 3 (see **Figure 3-6**), ITD's access control policies for *Principal Arterials* prescribe spacing recommendations for public street intersections (or interchanges), private approaches, traffic signals and frontage road access points, which vary between urban and rural settings.

It is both ITD's desire and the local community's desire (as discovered in the Study's community outreach program) for a north-south highway to safely accommodate higher speed (55 mph) traffic through Kootenai County. The access spacing guidelines shown in **Table 6.1** were followed when developing the future improvement options. These access spacings meet ITD's policy and are also consistent with federal guidance for safe highway design.

Table 6.1

Study Access Spacing Guidelines

	Urban	Rural
Interchanges	1 mile	2 miles
Public Streets	½-mile	1 mile
Traffic Signals	½-mile	1 mile

6.2.5 Study Area Segments – Analysis of Options

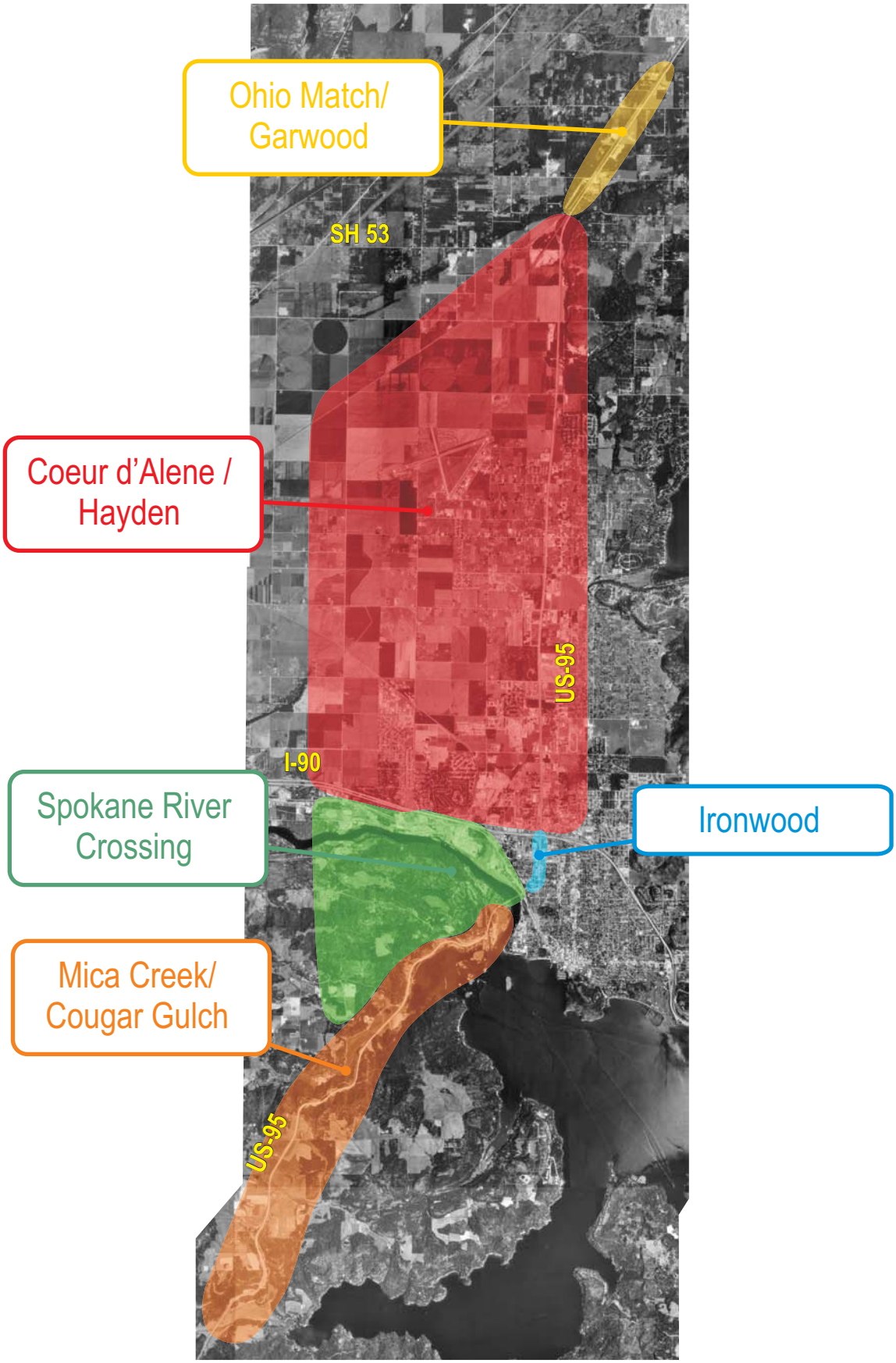
Given the complexity of the corridor study area, and the possibility of a variety of improvements to meet future needs, the study area was partitioned into five segments, as illustrated in **Figure 6-10.** These segments were used to better communicate and elicit critical feedback of the possible improvement options available within each segment, plus the ability to possibly mix and match options into corridor-wide *solution packages* that better meet the corridor plan goals.

6.2.6 Subarea Group Meetings

A series of subarea group meetings were coordinated and held in September and October 2001. The purpose of these meetings was to invite interested corridor residents and business owners to discuss their issues and concerns, and engage participants to help identify possible solutions that could be integrated into the US 95 Corridor plan process. In total, of the 30 to 35 invitees, about 28 local residents, landowners, and business owners attended and participated in the subarea group meetings. A summary report of the subarea meetings is provided in **Appendix A-2**. The findings of the subarea group meetings are included throughout this chapter, highlighting the stakeholder input in the development and evaluation of improvement options within specific segments of the US 95 corridor study area.

Study Area Segments

Figure 6-10



6.3 Ohio Match/Garwood Segment

Between SH-53 and Ohio Match Road, US 95 generally traverses rural land use, serving commuter, recreation, and intercity truck traffic. Traffic volumes are currently reaching capacity of the two-lane highway in this section. Traffic safety is a growing concern in this segment, as the sheer volume and speed of traffic has resulted in a number of traffic accidents, some of which involved fatalities.

6.3.1 Initial Options

As shown in **Figure 6-11**, one possible solution is to reconstruct US 95 to four travel lanes (two in each direction), and replace the private and public street at-grade accesses with an interchange and frontage road system. With this option, Ohio Match Road and SH-53 would be reconstructed with new interchanges at US 95; and Garwood Road would be reconstructed with an overpass at US 95. Old Highway 95, west of the Burlington Northern-Santa Fe Railroad, would be upgraded as a frontage road between SH-53 and Ohio Match Road.

Technical Performance

The replacement of direct access to US 95 with interchanges and frontage road circulation and access, coupled with the addition of travel lanes on US 95, is expected to result in acceptable levels of service and safer traffic operations on US 95.

Community Input

In October 2001 (see **Appendix A-2**) a meeting was held with local land and business owners in the Ohio Match/Garwood subarea. Much of the discussion centered on local land use access issues with regards to the option of widening US 95 to four travel lanes, and the dislocation of private access. Generally, the group was in favor of the US 95 access control (safety) and widening (capacity) improvement options, and focused their discussion on the various options for private access via a frontage road system on both the west and east side of US 95.

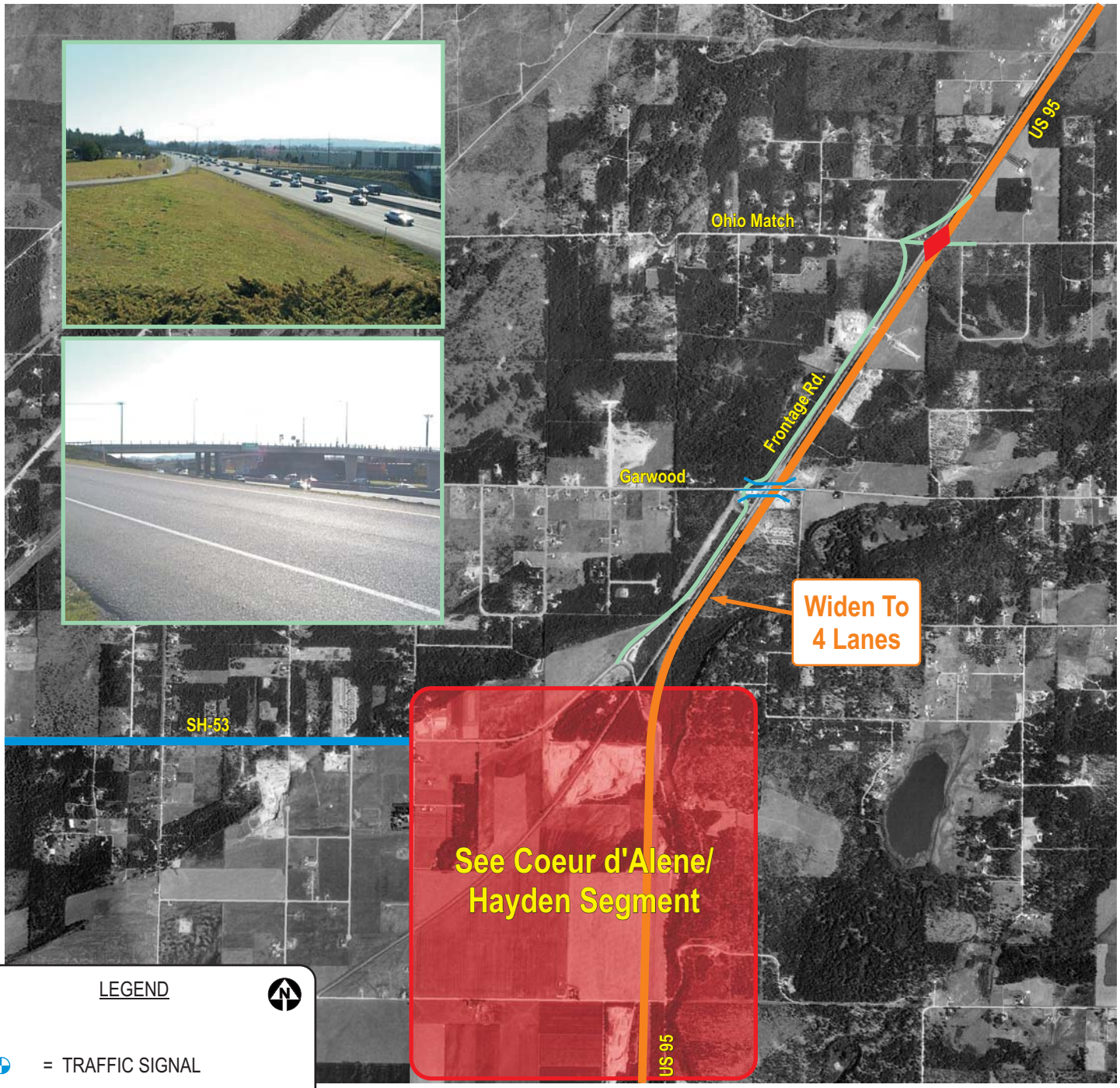
6.3.2 Refined Options

A series of modifications to the initial improvement option were made based on further analysis and ITD Staff and community input. The refined options include possible solutions for additional frontage road improvements connecting Government Way and Ohio Match Road east of US 95. See **Figure 6-12.** The refined option also includes placing a new interchange at Garwood Road rather than Ohio Match Road to better serve existing and planned land uses.

Ohio Match / Garwood Segment: Initial Option

Figure 6-11

DISTRICT 1
Idaho Transportation Department



LEGEND

= TRAFFIC SIGNAL

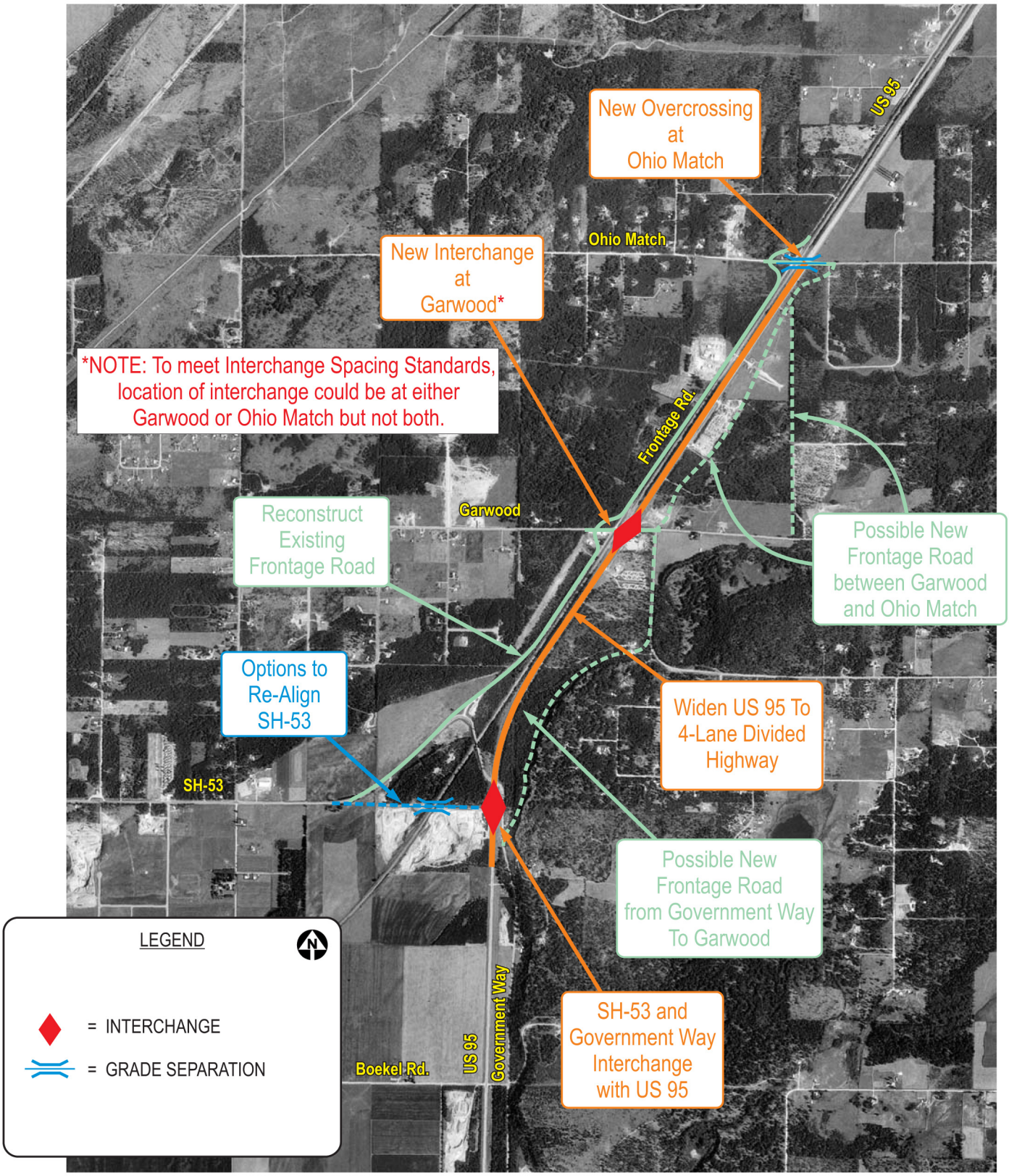
= INTERCHANGE

= GRADE SEPARATION

Ohio Match / Garwood Segment: Refined Options

Figure 6-12

DISTRICT 1
Idaho Transportation Department



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6.4 Coeur d'Alene / Hayden Segment

The Coeur d'Alene/Hayden segment includes the corridor's most intense urban land use, including multi-family residential, commercial, shopping center, and industrial activities. The segment also includes a portion of the Rathrum Prairie rural area, some of which is planned for eventual urban development.

6.4.1 Initial Options

A number of possible improvements were tested in the Coeur d'Alene segment, including local street improvements, land use and traffic management solutions, highway reconstruction improvements, and a new alternate route. Each option was evaluated to better understand the relative impact on future traffic operations and US 95 and throughout the study area. The general traffic performance characteristics summarized in Sections 6.2.2 and 6.2.3 were used in the evaluation as well as detailed intersection traffic operations analyses, summarized in **Appendix E**. These results were presented to the study area participants to get their feedback as to how the study goals were addressed by each option.

Local Street Widenings

The study examined the unique impacts on traffic conditions resulting from the widening of local arterial and collector streets that parallel or intersection US 95 within the study area. Based on the recommendations of the *Kootenai County Area Transportation Study* (1999), a stand-alone option was tested that included these improvements:

- *Hanley Extension* – Ramsey to Huetter (five lanes)
- *Prairie Widening* – US 95 to SH-41 (five lanes)
- *Hayden Widening* – Government Way to Huetter (three/five lanes)
- *Lancaster Widening* - Government Way to SH-41 (three lanes)
- *US 95 Widening* – Wyoming to SH-53 (four lanes)
- *Government Way Widening* – I-90 to Dalton to Miles (five and three lanes)
- *Ramsey Road Widening and Extension* – Hanley to Lancaster (five and three lanes)
- *Dalton Widening* - Ramsey to 15th

Results: The general estimates of future traffic conditions, as previously summarized in sections 6.2.2 and 6.2.3, revealed that this option would significantly reduce future traffic congestion on the local arterial system. It will also reduce future traffic congestion on US 95 when compared to a "no-build" scenario, but not to an accepted level of service (LOS). As example, today the average travel speed on US 95 north of I-90 is about 32 mph. By year 2020, the average speed will drop to about 22 mph if no major transportation capacity improvements are made within the study area. The effect of these local arterial street widenings will help reduce travel demand on US 95 (by offering alternatives), and the resulting average travel speed would be about 26 mph, significantly slower than current conditions.

Detailed analysis of the major intersections on US 95 confirmed these general findings, indicating failing, future peak hour traffic conditions (LOS "F," well below ITD's standard of "D"), even as a result of the arterial street widening improvements. See **Appendix E** for future traffic operations analyses.

Reaction: In the public opinion focus group studies (see **Appendix A-2**) most of the participants noted that this option generally did not completely satisfy the Study goals, but that the arterial street widening projects were greatly needed as part of any long-term solution to the US 95 corridor and study area. Many also noted that these widening projects could also serve as interim capacity improvements until the US 95 corridor solutions were completed. These findings were echoed and confirmed by the Advisory Group and other Study participants.

Land Use and Traffic Management Techniques

Hypothetically, adjustment of land use development patterns in the region was tested to see if land use patterns had a significant affect on US 95 traffic congestion. In this option, a significant portion of the new retail/commercial growth (75 percent) within the immediate US 95 corridor (½-mile on either side) was re-allocated to other areas in the region. Future traffic conditions were estimated based on this land use growth reallocation. The intent of this option was to test ways in which land uses could be better matched within the region to either reduce the rate of auto travel (by providing greater opportunities for non-auto travel between complimentary land uses), or reduce the traffic level on US 95, or both.

Results: When measured this option had very little impact improving future traffic conditions in the US 95 corridor or throughout the study area.

Reaction: Many of the Study participants (see **Appendix A-2**) agreed that these techniques were a good idea, perhaps needed regardless, but by themselves would not address the problems in the US 95 corridor.

Widen US 95 to Six Lanes

Currently, US 95 has two travel lanes in each direction between Appleway Avenue and Wyoming Avenue. The purpose of this option was to test added capacity to US 95 by adding one travel lane in each direction for a total of six through travel lanes.

Results: Detailed analysis of future traffic conditions at major intersections on US 95 north of I-90 indicated that the increased capacity offered by the added travel lanes on US 95 would not keep pace with the growth in corridor traffic. During the peak hour most of the major intersections would operate at LOS "F," which is well below ITD's standard of "D," even with the additional of one travel lane in each direction on US 95. See **Appendix E** for future traffic operations analyses. If this option is investigated further in the future, it is recommended that significant locally-sponsored improvements to cross streets be considered. While ITD's jurisdiction extends only to US 95, the willingness of local jurisdictions to develop projects at cross street intersections may allow a signalized system on US 95 to perform adequately. Additional cross street lanes, and multiple turning lanes to and from US 95 will need to be considered. In addition, the spacing of median openings and signals on US 95 is expected to be critical. Strict adherence to a half-mile signal spacing standard, which is consistent with ITD's access management policy is likely to be imperative. Currently there are two existing signals in the urban area north of I-90 (Bosanko and Canfield) which are located on quarter-mile rather than standard half-mile points. In addition to local cross street improvements, the community would need to face the issue of relocating or removing these and perhaps other existing signals which prevent adequate highway mobility.

Reaction: This option received mixed reaction by focus groups, advisory groups and other study participants. Many viewed it as a "band-aid" that would need to be replaced later (by a long-term solution). Many commented that the option would not improve traffic flow and may add to the safety problems at major intersections, especially for pedestrians and bicyclists crossing US 95.

US 95 Expressway

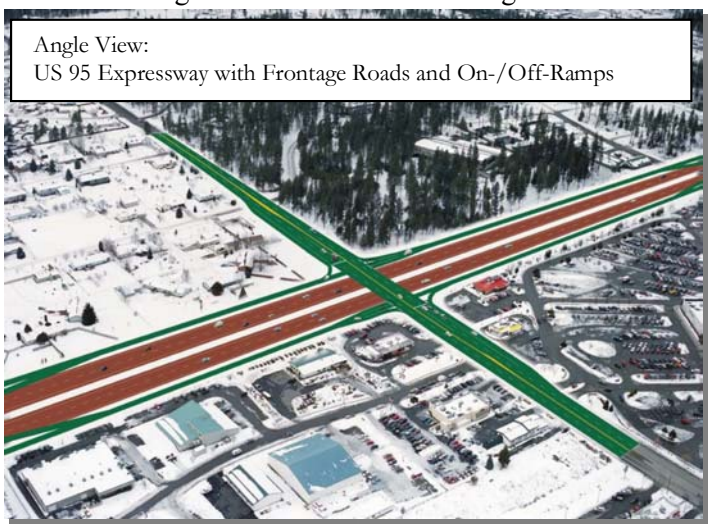
Currently, US 95 is located within approximately 220 feet of right-of-way, from Ironwood Drive north to about SH-53. A number of conceptual design options were identified to take advantage of the available right-of-way, and develop a 55 mph facility on the current alignment. Several of these options included reconstructing US 95 as an expressway, with varying types of local access and arterial street interchange designs.

Single-Point Interchanges and Frontage Roads

Figure 6-13 illustrates one of five expressway design options. Generally, this option includes re-constructing US 95 and constructing a series of east-west overcrossings that connect to a set of one-way frontage roads. US 95 would be built to operate at 55 mph speeds with no intersecting streets (similar to I-90). Single-point, urban interchanges would be constructed at major arterial streets within a spacing of about 1 mile. The purpose of the single-point interchanges is to maximize access to, from, and across the expressway while minimizing, to the degree possible, the need for additional right-of-way. These interchanges would provide full directional access at five major points within the corridor segment. At the ½-mile arterial spacing, this option would include overcrossings that link major east-west arterial streets with the US 95 frontage road network. At the ¼-mile spacing, local streets would be linked at the frontage road network, but not cross or intersect with US 95. This option would also include the reconstruction of the I-90 interchange, including a set of directional flyover ramps between I-90 (west) and US 95 (north).

On- and Off-Ramps and Frontage Roads

Figure 6-14 illustrates another expressway option, but instead of interchanges this option includes a series of on- and off-ramps for US 95 access via the frontage road system. US 95 would be built to operate at 55 mph speeds with no intersecting streets (similar to I-90). This option also includes reconstructing US 95 to provide east-west arterial crossings that connect to the frontage roads at the ½-mile spacings. At the ¼-mile spacing, local streets would be linked at the frontage road network, but would not cross or intersect with US 95. This option would also include the reconstruction of the I-90 interchange with the flyover ramps between I-90 (west) and US 95 (north).


Angle View:
US 95 Expressway with Frontage Roads and On-/Off-Ramps

Coeur d'Alene / Hayden Segment: Initial Option

US 95 Expressway with Single Point Urban Interchanges and Frontage Roads

DISTRICT 1
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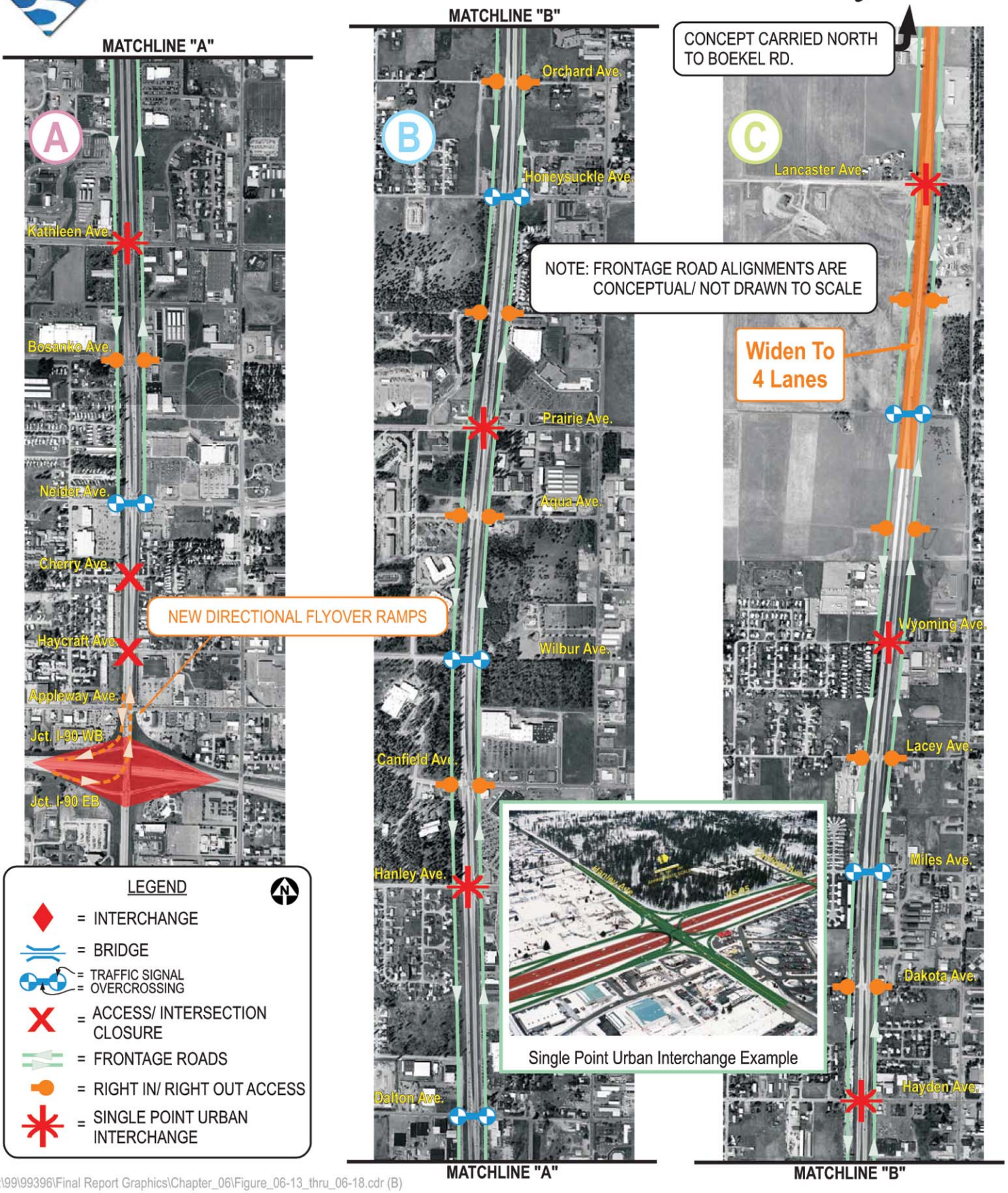
Figure 6-13



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Coeur d'Alene / Hayden Segment: Initial Option
US 95 Expressway with On-Off Ramps and Frontage Roads

DISTRICT 1
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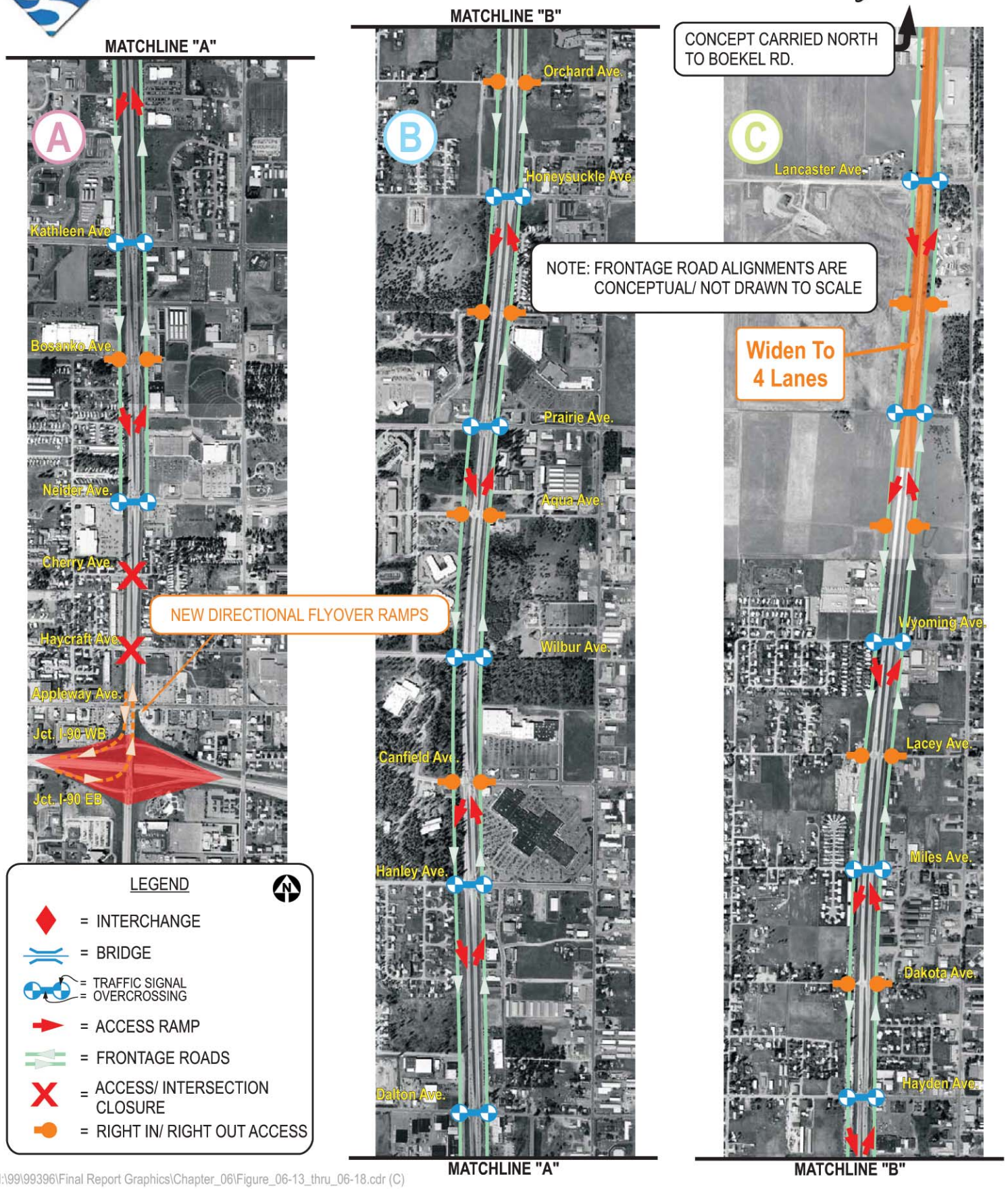
Figure 6-14



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Diamond Interchanges at Major Intersections / No Frontage Roads

Figure 6-15 illustrates an expressway design option along US 95, without a frontage road system. Generally, this option includes constructing diamonds interchanges at major arterial streets within a spacing of about 1 mile. US 95 would be adapted to operate at 55 mph speeds with no intersecting streets (similar to I-90). The interchanges would provide full directional access at five major points within the corridor segment, but may require some additional right-of-way in the new interchange areas. At the ½-mile arterial spacing, this option would include crossings that link major east-west arterial streets. At the ¼-mile spacing, local streets would be terminated. This option would also include the reconstruction of the I-90 interchange, including a set of directional flyover ramps between I-90 (west) and US 95 (north).

Roundabout Interchanges / No Frontage Roads

Figure 6-16 illustrates an expressway design option along US 95 with roundabout interchanges at major intersections instead of diamond interchanges. US 95 would be adapted to operate at 55 mph speeds with no intersecting streets (similar to I-90). The roundabout interchanges would also be constructed at major arterial streets within a spacing of about 1 mile. These interchanges would provide full directional access at five major points within the corridor segment, and will likely require additional right-of-way. At the ½-mile arterial spacing, this option would include over- or under-crossings that link major east-west arterial streets. At the ¼-mile spacing, local streets would be terminated. This option would also include the reconstruction of the I-90 interchange, including a set of directional flyover ramps between I-90 (west) and US 95 (north).

Roundabout Interchanges and Frontage Roads

Similar to the single-point interchange option, the roundabout interchange option, as illustrated in **Figure 6-17,** includes reconstructing US 95 to provide east-west arterial crossings that connect to a set of one-way frontage roads. US 95 would be built to operate at 55 mph speeds, with no intersecting streets (similar to I-90). The roundabout interchanges would be spaced about 1 mile apart, providing full, directional access at five major points within the corridor segment. The concept of the roundabout interchange allows traffic to move through the interchange area without traffic signals, with the intent to minimize traffic delay. At the ½-mile arterial spacing, this option would also include overcrossings that link major east-west arterial streets with the US 95 frontage road network. At the ¼-mile spacing, local streets would be linked at the frontage road network, but not cross or intersect with US 95. This option would also include the reconstruction of the I-90 interchange, including a set of directional flyover ramps between I-90 (west) and US 95 (north).

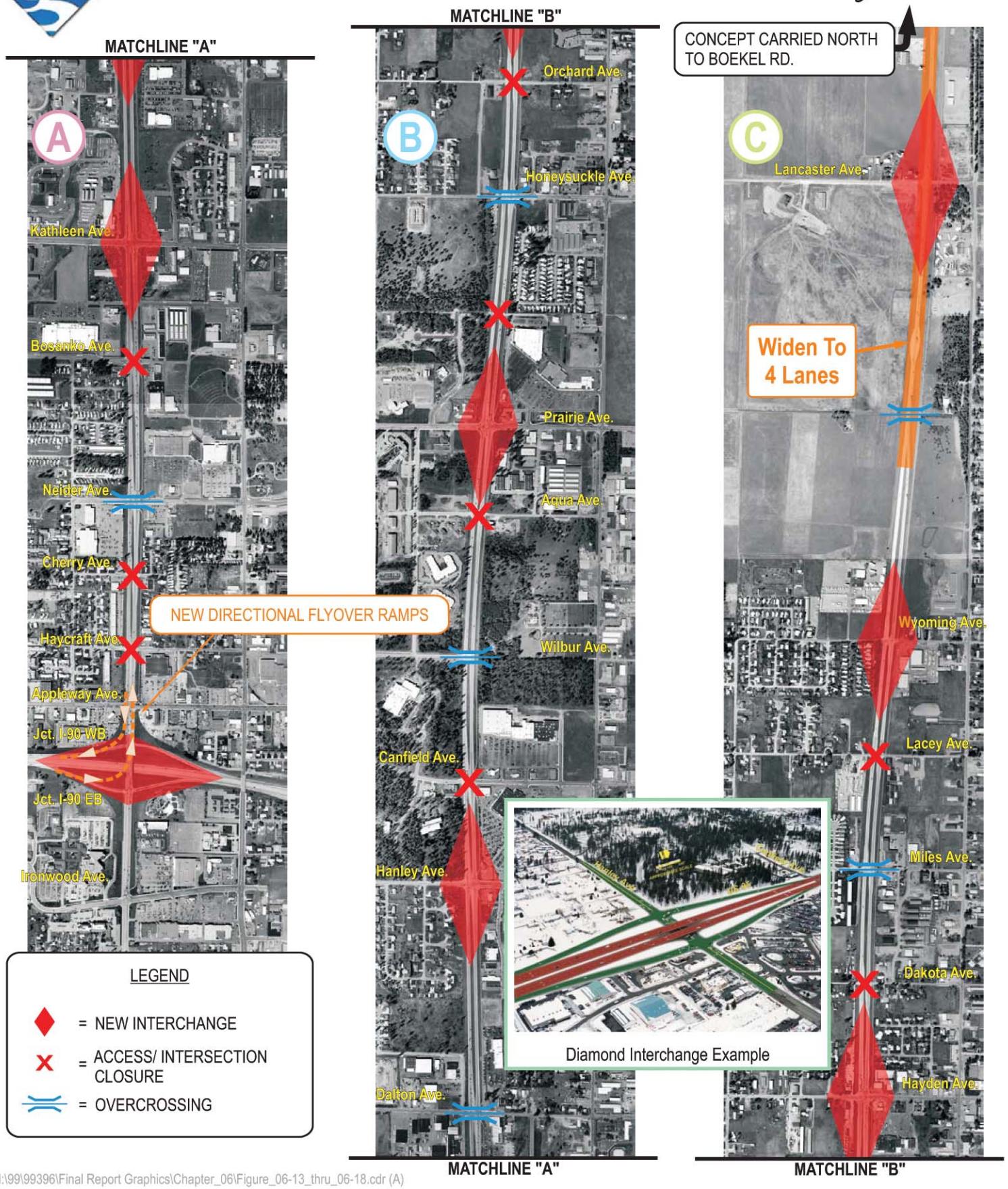
US 95 Expressway Results (all options): Estimates of future traffic conditions were summarized to measure and compare the various expressway options along US 95. Regardless of the interchange style, an expressway with frontage roads was found to have the greatest impact reducing future traffic congestion on US 95 and the local arterial system. Detailed analysis also revealed that US 95 would operate at LOS "D" or better during peak hour conditions, and that the major intersections with the frontage roads would all operate within ITD's standard LOS "D" (see **Appendix E**).

Those expressway options that do not include frontage roads were found to operate with much higher levels of congestion at the interchange ramp intersections of the arterial street system, in some places exceeding ITD's standard. Without frontage roads these options place greater demand on the arterial system for local access and circulation, as indicated by the much higher levels of system-wide traffic congestion (see **Figure 6-26**).

Coeur d'Alene / Hayden Segment: Initial Option
US 95 Expressway with Interchanges at Major Intersections

DISTRICT 1
Idaho Transportation Department

Figure 6-15



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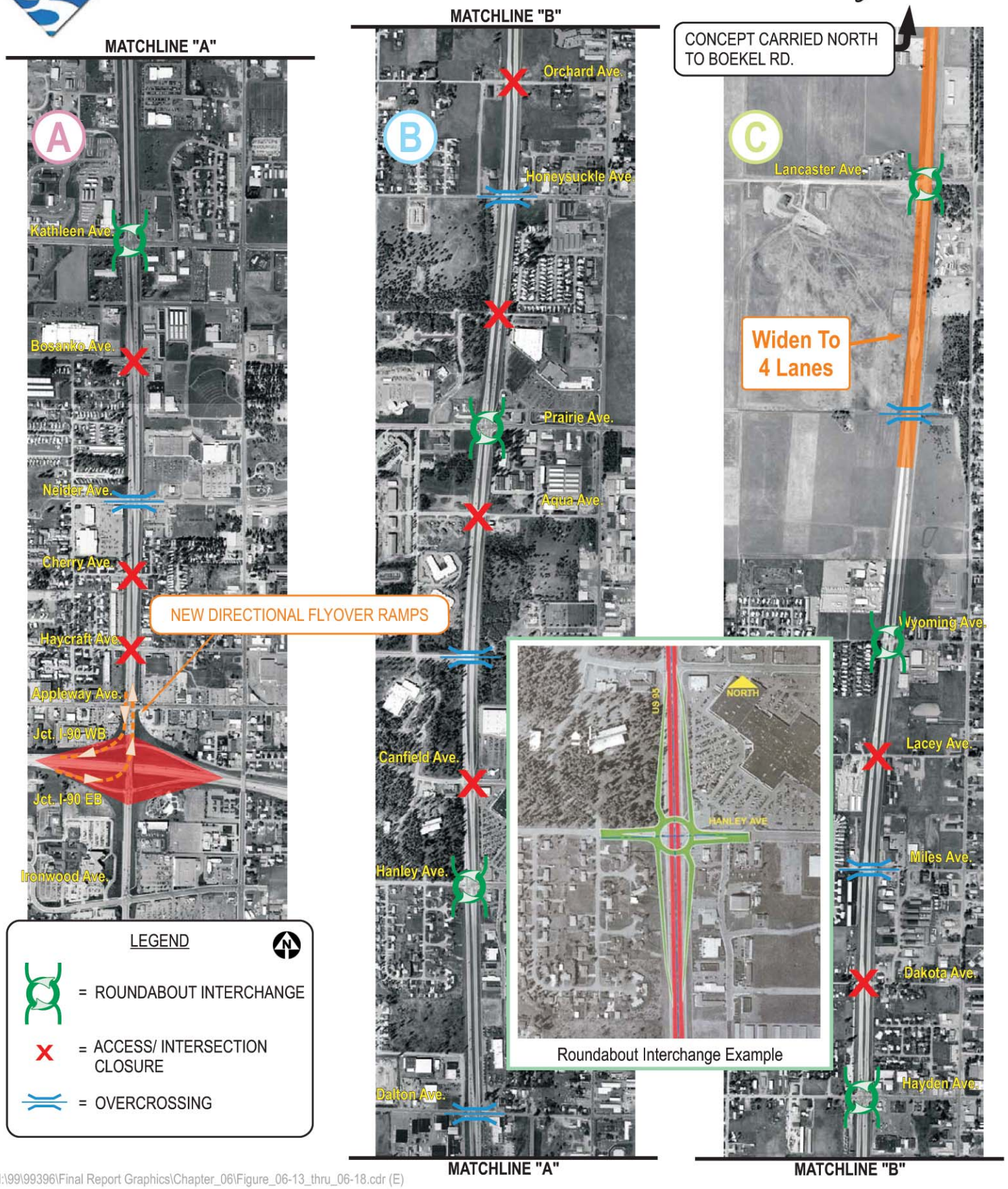
Coeur d'Alene / Hayden Segment: Initial Option
US 95 Expressway with Roundabouts at Major Intersections

DISTRICT 1
Idaho Transportation Department

Figure 6-16



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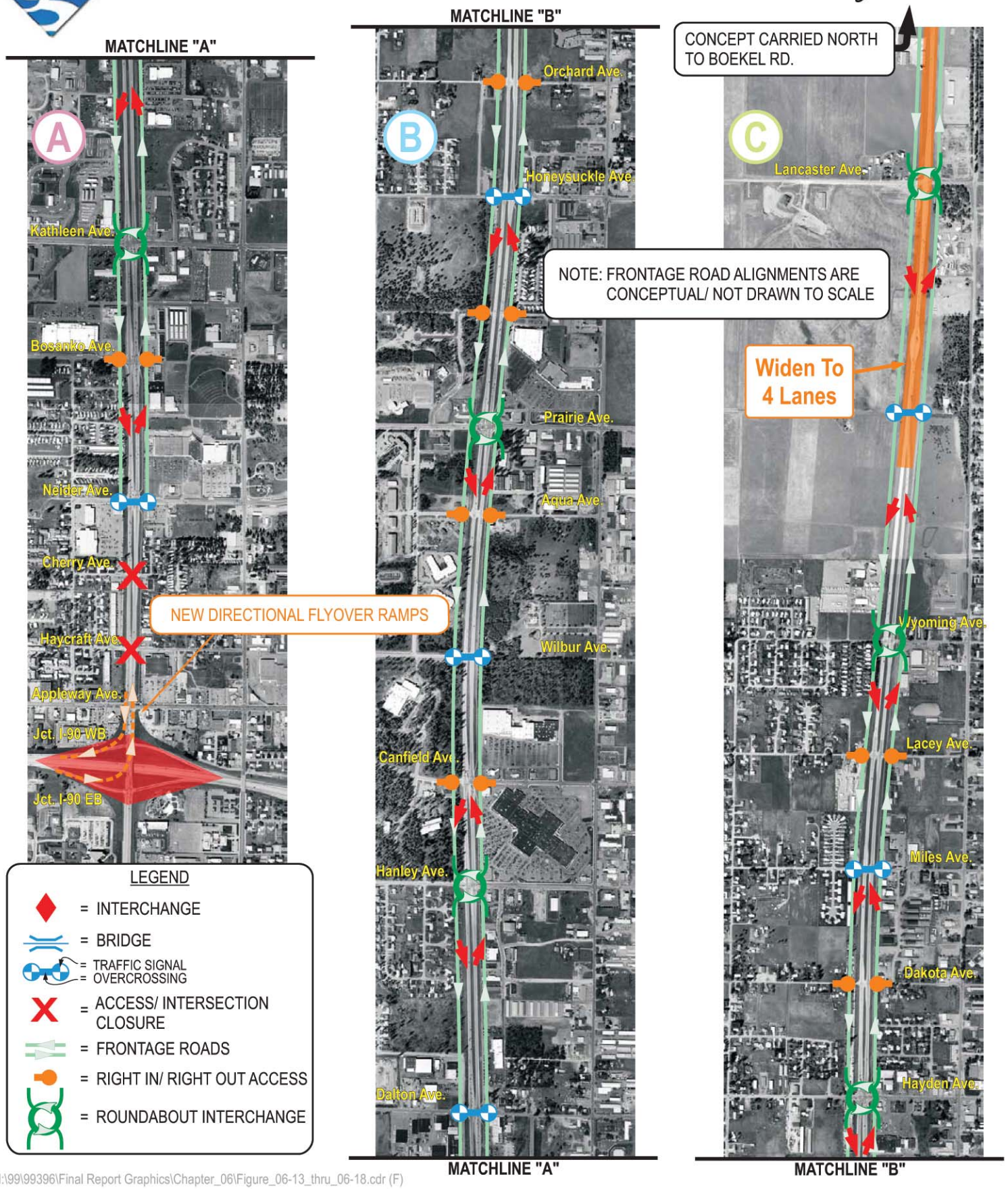
Coeur d'Alene / Hayden Segment: Initial Option

US 95 Expressway with Roundabout Interchanges and Frontage Roads

DISTRICT 1
Idaho Transportation Department

Figure 6-17



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US 95 Expressway Reaction (all options): Many study participants noted that the expressway options (with and without frontage roads) would generally address the stated corridor goals. Concerns involved the cost of these improvements. Participants generally favored the option with frontage roads as it provides better local access and circulation and smaller impacts to neighboring lands. Others expressed their concerns regarding negative and disruptive impacts to neighboring residents and businesses, and some participants thought that these options would be too expensive. There is also concern that a significant investment in the existing corridor could limit funds for development of a new relief route in the future.

At-Grade Intersections with Median U-Turns

This option, as shown in **Figure 6-18**, includes minor widening of the current US 95 median to add left turn lanes and new traffic signals to better accommodate side-street turn-movements and increase the traffic signal "green time" for through-movements on US 95. Side-street left- and through-movements would be re-directed to the new median left turn lanes in order to reduce the number of critical movements at the major arterial intersections. The median U-turn improvements would be placed at about ½-mile intervals. This option would also include the reconstruction of the I-90 interchange.

Results: Future traffic operations under the median u-turn option were also analyzed. The results indicated that some, but not all of the individual movements through the major intersections would operate within ITD's standard (LOS "D"). Other movements, particularly on the side-streets, would experience significant delay at substandard LOS. See **Appendix E** for future traffic operations analyses.

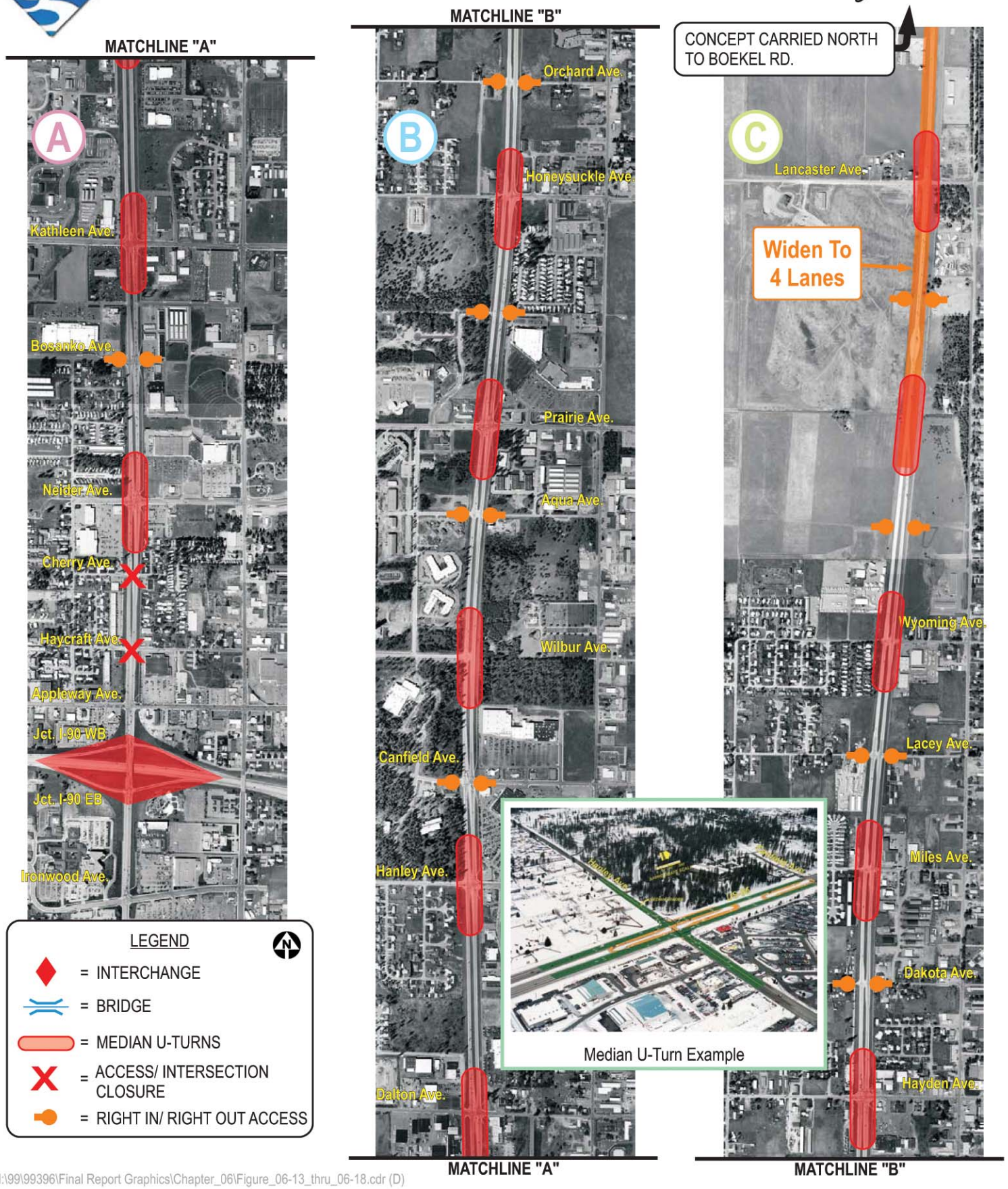
As with the Widen US 95 to Six Lanes option, if the Median U-turn option is investigated further in the future, locally sponsored improvements to cross streets and removal or relocation of existing US 95 signals would need to be considered.

Reaction: Some of the focus group study participants viewed the median u-turn option as a potential solution, but many were concerned that their operations would be too confusing (particularly to tourists) and not afford improved mobility and safety on US 95. These comments were similar to those from the Advisory Group and other Study participants.

Coeur d'Alene / Hayden Segment: Initial Option
US 95 Median U-Turns at Major Intersections

DISTRICT 1
Idaho Transportation Department

Figure 6-18



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Huetter Road Alternate Route

This option includes constructing a new, multi-lane, controlled access highway on or near Huetter Road from I-90 to SH-53, as shown in **Figure 6-19**. The route is generally located halfway between SH-41 and US 95. A southern extension across the Spokane River linking the new route with US 95 in the Cougar Gulch area was also examined. North of I-90, the Huetter Alternate Route would be built to operate at 55 mph speeds, with no intersecting streets. The Huetter Road alignment would need to route around the Coeur d'Alene Airport to avoid airport operation height restrictions. Access to the route would be provided by new interchanges, likely at Hanley, Prairie, Hayden, and Lancaster Avenues. Interchanges would be constructed at either ends of the route to link I-90 and US 95/SH-53. The Huetter Alternate Route would also likely cross over other east-west roadways such as Poleline Avenue, Lancaster Road and Boekel Road. The route might also include an extension of Huetter Road across Burlington Northern/Santa Fe Railroad to connect with SH-53.

Results: The analysis of future travel demand showed that the Huetter Alternate Route would significantly reduce system-wide future traffic congestion. Huetter Alternate Route would not likely improve traffic congestion on existing US 95 to ITD's standard. For example, most of the existing US 95 major intersections would operate at LOS "E" during the future peak hour, and the average travel speed on the current route would be about 28 mph (slower than today's average travel speed). See **Appendix E** for future traffic operations analyses.

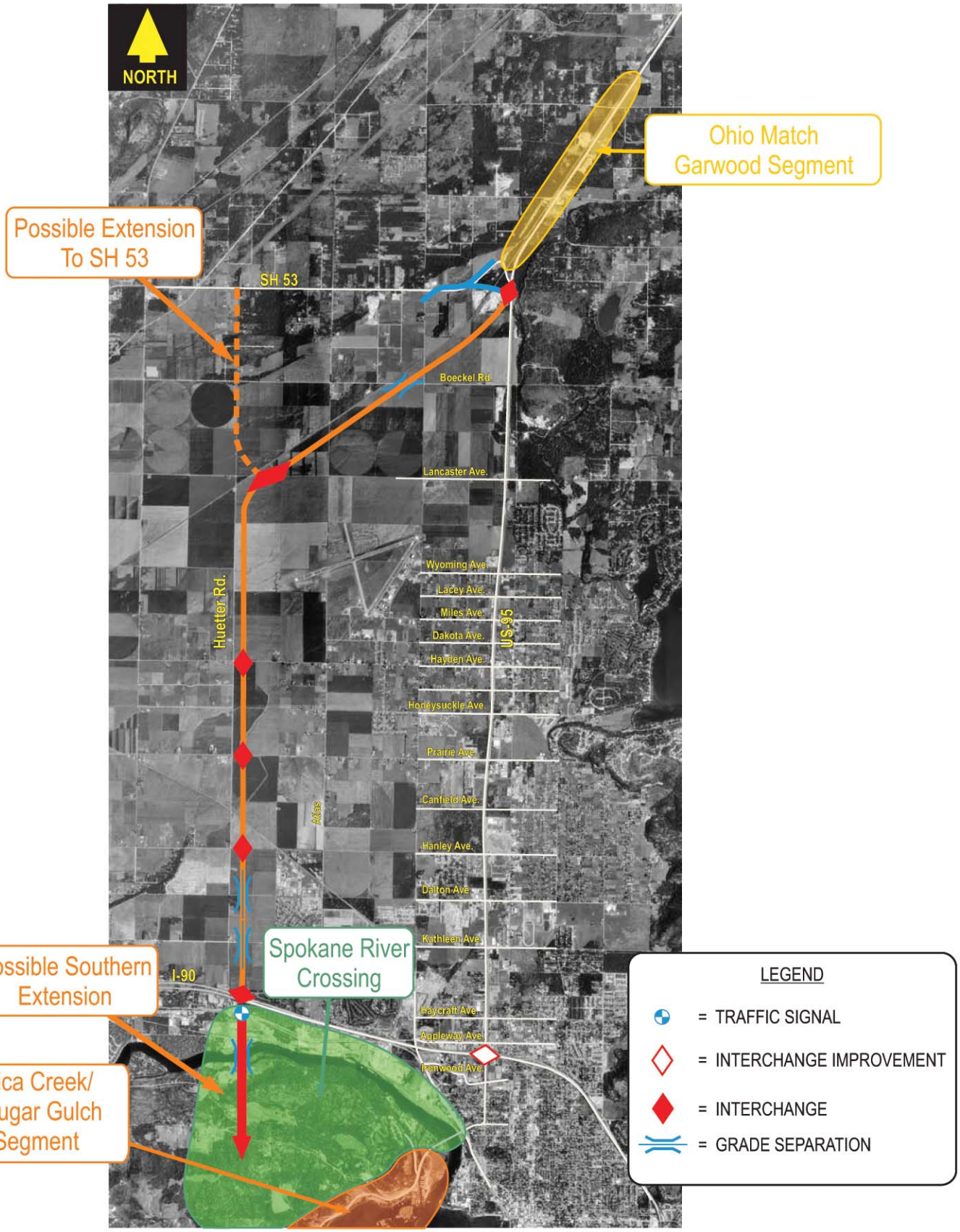
Reaction: Many study participants favored the Huetter Road alternate route option as a way to divert truck and non-local traffic away from Coeur d'Alene. Other participants voiced their concerns regarding the negative impact to rural lands, diversion of traffic away from US 95 corridor businesses, and that the option avoids addressing the congestion problems on US 95. Regarding the option to extend the alternate route south of I-90 and across the Spokane River through Cougar Gulch, several participants voiced their concern about the negative impacts to rural and environmental lands, and felt that the extension would not provide that much traffic relief.

Development of an alternate route would limit funds available for improvement of the existing route. The community faces a serious dilemma in that a relief route will help, but not likely solve existing safety and congestion concerns on the current US 95 alignment. It was also acknowledged that at present, the region's largest traffic generators and most intensely developed land uses are centered around the existing route. Balancing today's needs for US 95 congestion relief against the future's need for regional mobility may be the biggest challenge facing the community.

Coeur d'Alene / Hayden Segment-
Huetter Road Alternate Route Initial Option

Figure 6-19

DISTRICT 1
Idaho Transportation Department



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6.4.2 Community Input

In August and October 2001 (see **Appendix A-2**) a series of meetings were held with local land and business owners in the Appleway and Hanley/Dalton subareas. Much of the discussion with the Appleway subarea group centered on the US 95 Expressway options and the I-90 interchange improvement concepts involving flyover ramps, and the Huetter Alternate Route concept. There was stated concern regarding the flyover ramp termini and the resulting visibility to local commercial activities, the impacts to local businesses along US 95 with the Huetter Alternate Route, and the ability to maintain local and regional network access through the US 95/Appleway intersection with any of the US 95 expressway options. The group acknowledged that ITD's additional assessment of the engineering feasibility of the US 95 expressway and flyover ramp options would be needed for them to make a better decision.

A number of study participants questioned the viability of initial options for the four-lane expressway with parallel frontage roads and the I-90 flyover ramps. To address these concerns, the planning-level analysis was expanded to include conceptual engineering for these options. The conceptual engineering analysis examined the opportunities and constraints of possible improvement options along US 95, mainly within the Coeur d'Alene and Hayden urban area (between the Spokane River and SH-53). The analysis focused on two segments:

- US 95 Expressway with Frontage Roads (north of Appleway); and,
- US 95/I-90 Interchange.

The focus of the discussion in the Hanley-Dalton subarea centered on relative impacts to local business adjacent to US 95, comparing the US 95 expressway and Huetter Alternate Route options. There was stated concern that the alternate route would divert needed traffic away from existing stores, and other concerns that US 95 expressway options would cause negative impacts to adjacent businesses during construction. Subarea group participants agreed to continue to participate in the US 95 Corridor planning process as further study and findings of the options were developed.

6.4.3 Refined Options

Between Appleway and SH-53 the State of Idaho presently owns about 220 feet of right-of-way along the current US 95 alignment. Previous planning analysis identified a number of expressway options that might fit within the existing right-of-way, including the addition of directional frontage roads to provide local access and circulation, and varying types of interchange concepts. The conceptual engineering analysis mapped each of these options in more detail, and examined the various advantages and disadvantages of each regarding arterial traffic operations and control requirements, pedestrian and bicycle access and circulation, structural requirements, and state highway maintenance operations. The interchange options include slip ramps with frontage roads, single-point urban interchanges with frontage roads, roundabout interchanges with frontage roads, and diamond interchanges without frontage roads. **Figure 6-20** illustrates the various interchange options and summarizes the advantages and disadvantages of each.

Slip Ramp Concept

A disadvantage of the slip ramp concept compared to major interchanges is that it may be a little more difficult to coordinate the arterial/frontage road intersection traffic signals. However, the slip-ramp concept has these advantages:

- Easier for the State to maintain, especially removing snow during the winter months;
- More friendly to bicyclists and pedestrians;
- A more familiar design treatment for local motorists;
- Less expensive than major interchanges because it does not require as much retaining wall structural support along the frontage roads; and
- More efficient in accommodating expressway traffic operations between major interchanges by minimizing traffic weave and merge conflicts.

Further examination of the expressway options focused on the ability to transition the slip ramps and provide adequate design of local street intersections to the frontage road. **Figure 6-21** illustrates a plan overview of the US 95 expressway option with frontage roads and slip ramps between Hanley Avenue and Canfield Avenue. **Figure 6-22** provides an oblique view of the same concept.

US 95/I-90 Interchange

The planning analysis identified the possibility of directional, flyover ramps between I-90 and US 95 to help reduce the future travel demand traveling through the US 95 intersections at Appleway and the I-90 westbound and eastbound ramp intersections. In turn, these enhancements would free up capacity on US 95 for more through and local traffic to and from Appleway. The conceptual engineering analysis mapped and examined two flyover ramp design options based on varying design speeds, plus a third option that could integrate a possible viaduct option along US 95 south of I-90.

Figure 6-23 illustrates three enhancement concepts for the US 95/I-90 interchange area. Of the two flyover ramp options, the 45 mile per hour (mph) design speed option would require additional right-of-way to accommodate a new I-90 eastbound off-ramp (to US 95 northbound). The partial cloverleaf interchange option could accommodate the possibility of fitting US 95 with a viaduct between I-90 and the Spokane River, but would require additional right-of way on the south side of I-90 and displace the waterslide facility. (see Section 6.5 Ironwood Segment) All three options could include adding capacity to the US 95 bridge over I-90 to better manage traffic.

Coeur d'Alene / Hayden Segment
US 95 Expressway Interchange Options

Figure 6-20

DISTRICT 1
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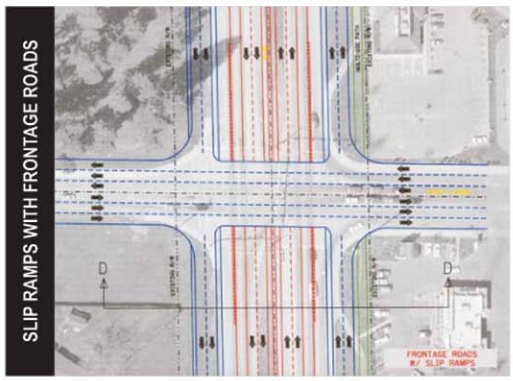
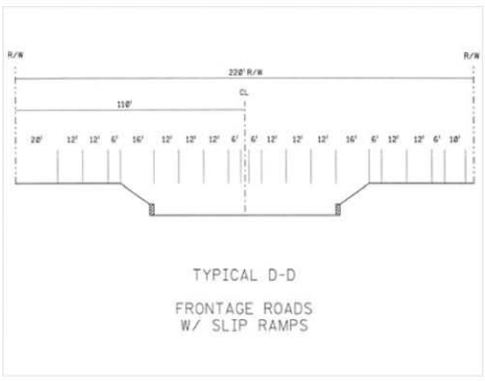
PLAN VIEW | **PROFILE VIEW**

SLIP RAMPS WITH FRONTAGE ROADS

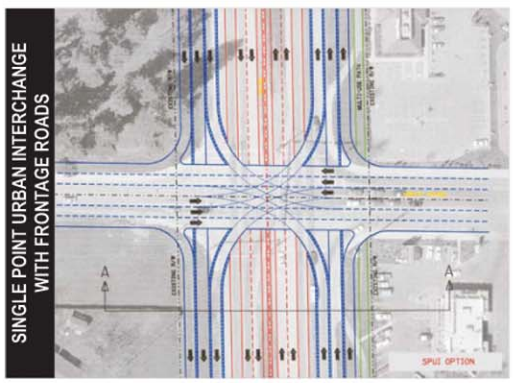


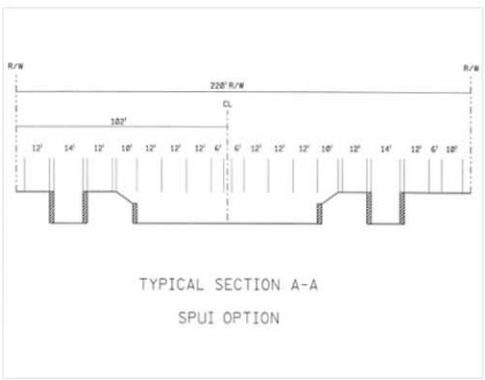


Pros:
- Similar configuration of traditional "Diamond" interchanges
- Continuous frontage road system provides good, local access and circulation
- Provides best pedestrian safety and accomodation

Cons:
- Traffic signals likely required at each frontage road intersection with major cross streets
- Distance between traffic signals on the cross street (150') may require rigorous traffic signal system control

SINGLE POINT URBAN INTERCHANGE WITH FRONTAGE ROADS

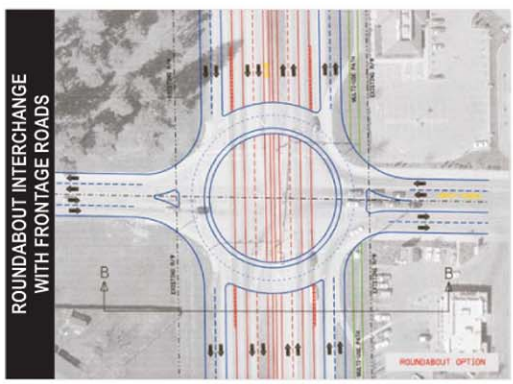


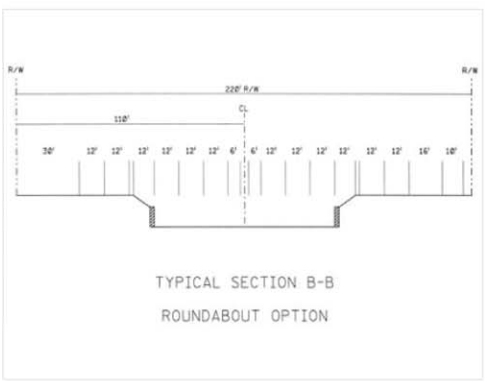


Pros:
-Requires only one traffic signal for each interchange
-Provides good traffic circulation and operation

Cons:
- Requires significant retaining walls along frontage roads (higher construction costs)
- Difficult to remove snow and maintain highway and frontage road system
- Distances between interchanges makes it difficult to accommodate the traffic weaving between US 95 and the frontage roads
- Requires moving the centerline of US 95 to accommodate design in existing right-of-way
- Design can be pedestrian- and bicycle- "unfriendly"

ROUNDABOUT INTERCHANGE WITH FRONTAGE ROADS

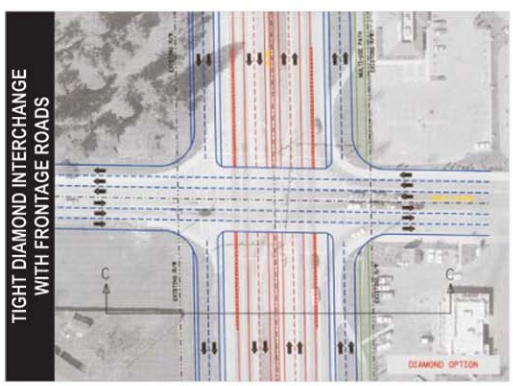


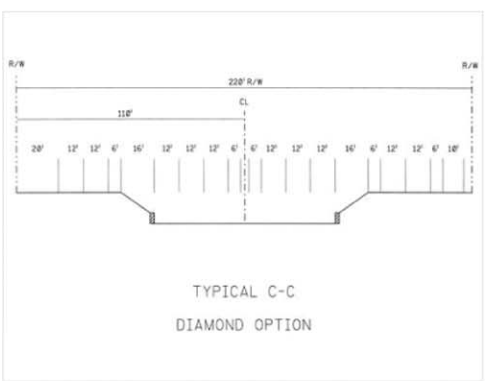


Pros:
- No signalization required on major side street interchange connections
- Design may provide new and unique design to community infrastructure
- Continuous frontage road system provides good, local access and circulation

Cons:
-Interchange design and concept (on arterial-to-arterial connections) is foreign to local travels may require significant adjustment and acceptance in the local community
-Design can be pedestrian- and bicycle- "unfriendly"

TIGHT DIAMOND INTERCHANGE WITH FRONTAGE ROADS





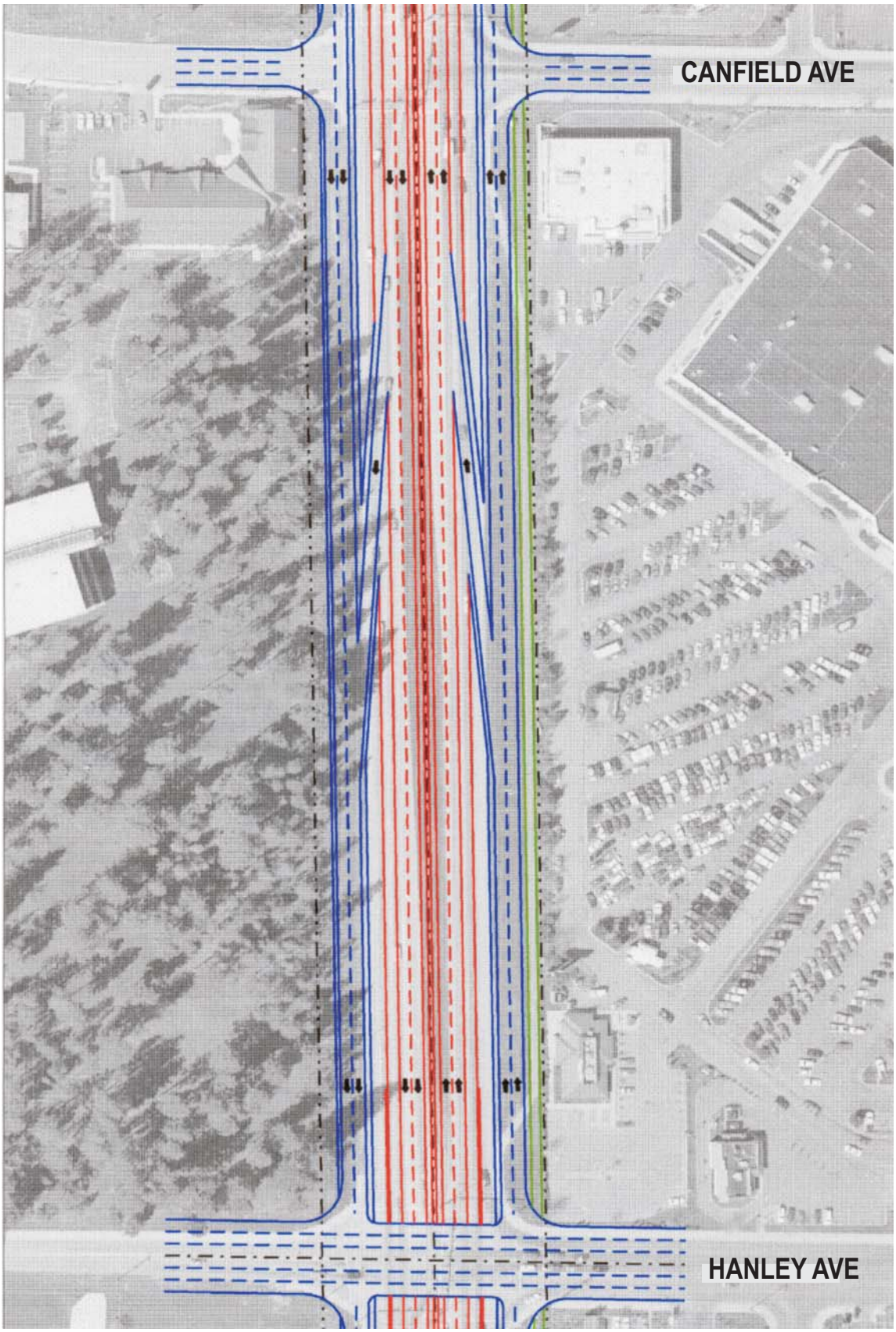
Pros:
- Traditional interchange concept

Cons:
- Signals required at each on/off ramp location (two locations)
- Minimum distance from signal to signal along cross street (150')
- Potential queuing problems for left turn movements from cross street to on ramps
- Lack of frontage roads eliminates adjacent business access

US 95 Expressway Option with Frontage Roads at Hanley Avenue - Plan View

Figure 6-21

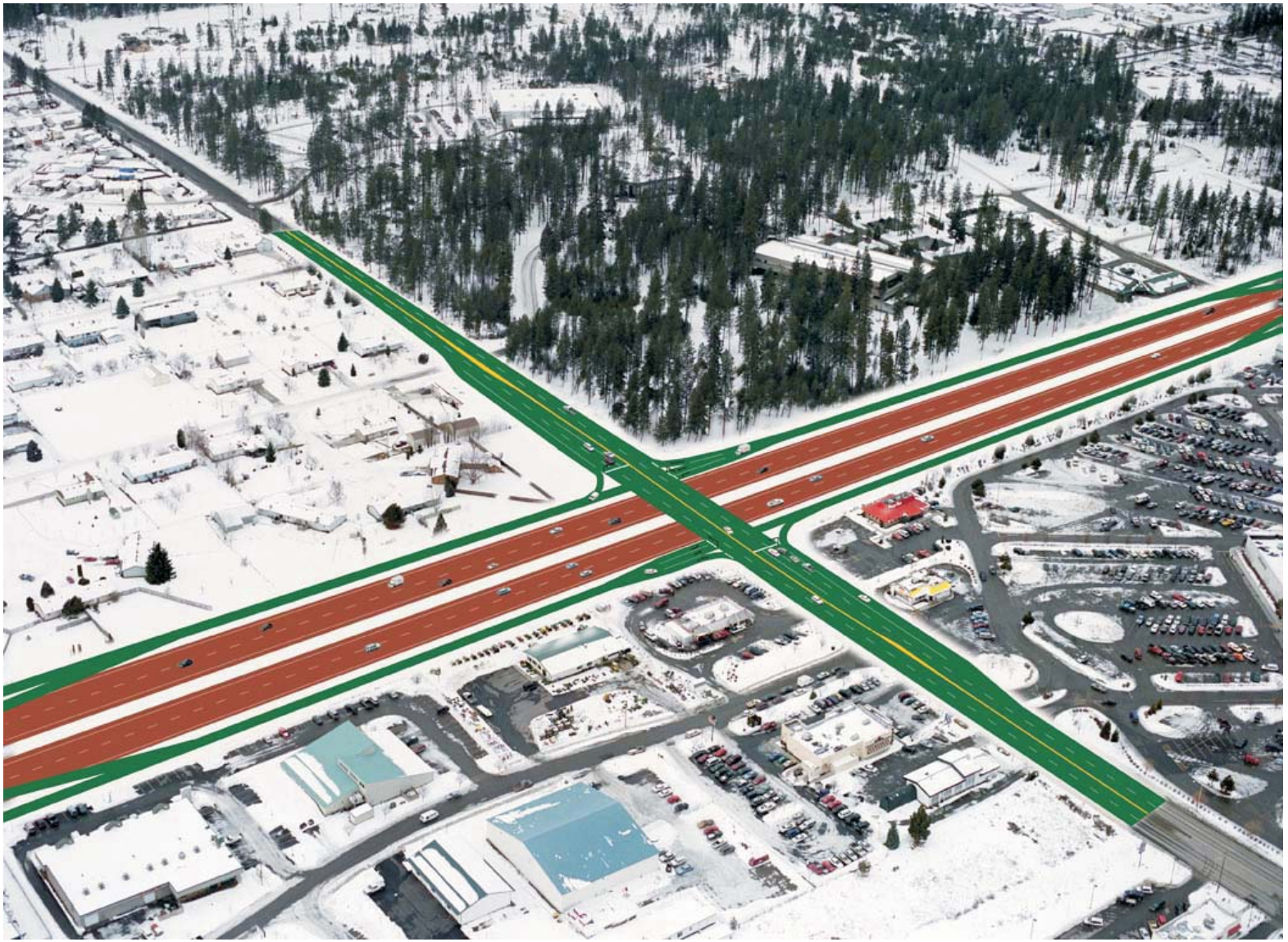
DISTRICT 1
Idaho Transportation Department



US 95 Expressway Option with Frontage Roads at Hanley Avenue

Figure 6-22

DISTRICT 1
Idaho Transportation Department



Coeur d'Alene / Hayden Segment:
I-90 / US 95 Interchange Options

Figure 6-23

DISTRICT 1
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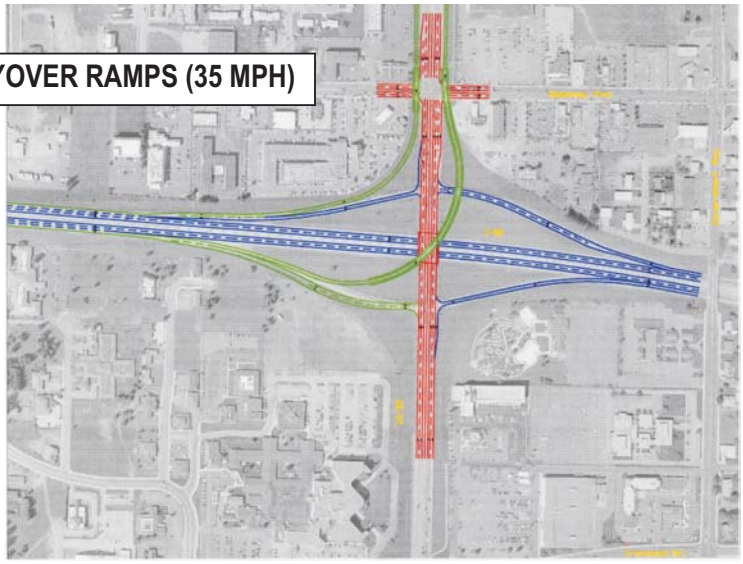
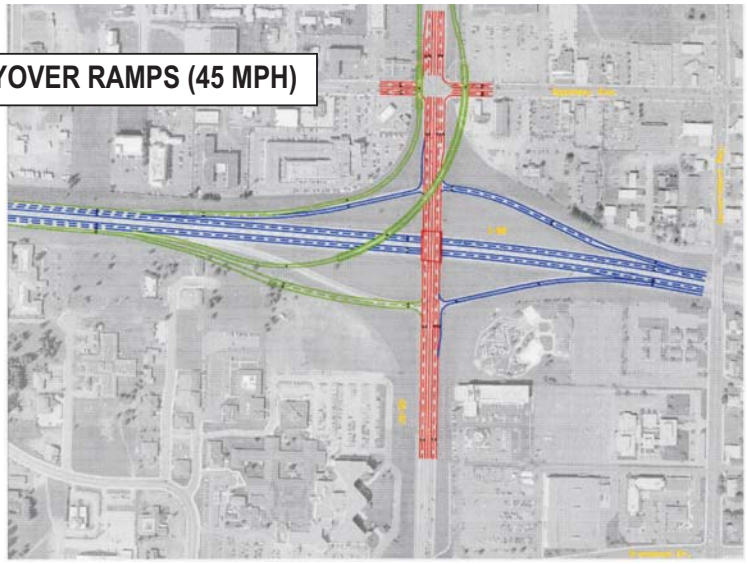
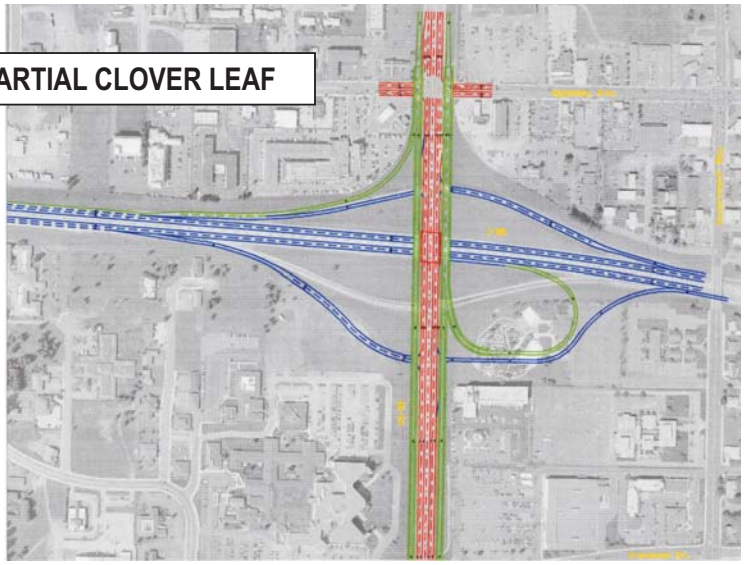
US 95 FLYOVER RAMPS (35 MPH)



US 95 FLYOVER RAMPS (45 MPH)



US 95 PARTIAL CLOVER LEAF



6.4.4 Alternate Route Dilemma

Each local agency in Kootenai County has its own comprehensive plan. As a region, however, local communities in Kootenai County have not yet developed an overriding philosophy on growth. With the advent of the new Kootenai Metropolitan Planning Organization, the region now has a forum for discussion and adoption of a guiding philosophy and strategies for transportation investments.

While technical analysis can assist in identifying the performance of various options, technical analysis alone cannot define the solution. Significant trade offs are involved. Some options are better at managing future regional traffic; others are better at addressing today's immediate congestion and safety needs. No single set of options provides a perfect solution for every issue, and in the end, local politics and a community vision for the future will greatly influence investment decisions.

Through public outreach efforts, ITD has learned that our community values many things about US 95, and also desires to improve other aspects of the highway. The community seeks a balance between system efficiency, economic impacts, safety concerns, and quality of life issues. It is also important to make sure regional transportation decisions are consistent with other local and regional planning efforts, and don't unduly burden local resources.

Decisions on how and where to grow are often contentious. Until such time as the community adopts a vision for future growth, decisions on major transportation investments such as an alternate route or existing route expressway may be unwise. The following discussion outlines some of the philosophical trade offs that have come to light during the study, creating an interesting dilemma for the community.

In the future, a full environmental evaluation will be undertaken. In this process, community decisions on these tradeoffs can be addressed, and a final decision made for the future of US 95.

Congestion

Traffic studies and community input indicate that a north-south freeway is desirable in Kootenai County within the next 20 years. At first glance, it appears to be physically easier to construct a new route through wide-open farmland along Huetter Road than to reconstruct existing US 95 into a freeway-type facility. However, the issues are much broader and complex than just ease and cost of construction.

Traffic circulation studies have shown that at least 90% of the traffic on existing US 95 has origins or destinations in the Coeur d'Alene / Hayden area. Demographic and land use forecasts performed during the study indicate the existing corridor could continue to grow as one of the region's primary centers of commercial activity, provided adequate infrastructure is in place to support this growth.

An alternate route could provide uncongested flow for travelers wishing to bypass the urban core, and could greatly improve system-wide congestion in the future. It is likely, however, that congestion and delays would continue to increase on existing US 95 prompting the need for capacity improvements on the existing alignment.

In the end, perhaps a combination of both solutions will be pursued. From a congestion standpoint, the community is faced with not only with the dilemma of whether to build an alternate route, but also how to define the character and function of the existing route, with or without an alternate route. Capacity investments that appear easy to implement on the existing route today could forestall the

development of future options needed for regional mobility. Conversely, local understanding of tradeoffs and strong commitment to a strategic path and will be needed if the community determines to pursue significant investments for tomorrow that do not address today's immediate congestion problems.

Highway Access and Mobility

A highway's ability to serve large volumes of traffic safely and efficiently is directly related to limited access.

Access management on either an alternate route or an expressway on the existing alignment could be relatively straightforward. Development of a new Huetter route or major reconstruction of the existing route would allow ITD to establish strict access control so that no driveways or public roads would directly intersect with high speed travel lanes. Instead, access could be limited to interchanges only, ensuring mobility.

If an alternate route is ultimately selected, a regional philosophy concerning the need for mobility on the existing alignment must also be established. Access management and the protection of mobility are much more challenging on the current alignment if the existing system of at-grade, signalized intersections is continued. Without major reconstruction, future mobility in the existing corridor will depend heavily on the actions and choices of local governmental agencies. The community will be faced with significant cross street improvement needs, along with tough decisions concerning the location of future signals, and perhaps even elimination or relocation of existing signals on the current route. Without these actions, degradation of mobility is certain.

Safety

Many citizen comments were received concerning safety needs on US 95 in Coeur d'Alene and Hayden, not only for vehicles, but also for pedestrians and bicycles.

Addressing safety on an alternate route, or an existing route expressway would be relatively straightforward. An alternate route could also be designed without at-grade intersections, to safely accommodate drivers, bicycles and pedestrians. Similarly, with an expressway on the existing route, bridges would be constructed to allow express lanes to travel underneath, or over the top of cross streets. Separating the traffic this way would improve safety since fewer vehicles, pedestrians and bicycles would be in conflict at intersections.

A safety dilemma arises when considering options which perpetuate the system of at-grade signalized intersection on the existing route (which may be the result if an alternate route is selected.) Adding lanes to existing US 95 and/or cross streets increases the roadway capacity, but places more cars in conflict with each other at intersections. Pedestrians and bicyclists would also have a more difficult moving across the US 95 corridor since they would have to compete with additional lanes of highway traffic at signals. It may be necessary to explore special facilities for pedestrians and bicycles to allow them to cross safely under or over the roadway.

Socio-Economic Impacts

Not surprisinging, the future location of a high-speed north-south mobility corridor sparks much debate concerning potential impacts to human and economic interests. A literature review of case studies around the nation show that the perceived benefits and impacts of these types of major highway improvements are highly subjective. The prevalent tone and position within business

leadership and land use professionals can greatly influence a community's overall philosophy regarding growth rates, development patterns and infrastructure investments.

Socio-economic concerns related to the location of a high speed mobility corridor in Kootenai County are mixed. Developing an expressway on the existing corridor could allow greater volumes of traffic into and through the existing urban core. Many citizens favor this option as a way to manage growth and support existing commercial land uses. However, strong concern has been voiced by adjacent businesses over the possibility of reduced highway visibility and modified access.

The alternate route concept is popular with regional developers who see opportunities for expedited development of the Rathdrum Prairie as both desirable and economically beneficial. However, many of the same business owners who are opposed to an existing route expressway also have grave concerns that their businesses could suffer if traffic and new development is drawn away from the existing corridor. Residents with existing homes on the Rathdrum Prairie who enjoy the existing "country" environment are also concerned that an alternate route could adversely affect their quality of life.

Public Investment Priorities

Through planning, zoning and infrastructure development, the community has made a substantial commitment to the existing US 95 corridor. A look at recent aerial photographs shows undeveloped property remains around the existing corridor for infill development as well as new commercial, industrial and residential subdivisions. Improvements to the existing route could leverage the community's previous investments and strengthen the community's economic core.

An alternate route may also be consistent with future land use plans for the Rathdrum Prairie. At this time, the Kootenai County's Comp Plan is under revision, and local residents have been working with the County to develop a Green Space Plan for the Prairie. It is possible that the County may someday implement land use strategies for mixed-use development on the Prairie which could benefit from an alternate route. Close coordination with local planning agencies will be essential if this option is carried forward, to ensure that an alternate route is compatible with planned adjacent land uses.

When considering options in the environmental process, an assessment of financial resources available to local agencies will be a key factor in determining where to focus US 95 improvements in the future. Local agencies' ability to construct and maintain local street network improvements needed to support an alternate route, existing route improvements or both, should be an important part of the final decision.

6.5 Ironwood Segment

The preliminary options to improve US 95 in the Ironwood Segment are more challenging due to the limited amount of existing right-of-way (80 to 90 feet) and the complexity and density of local street intersections, particularly between Lincoln Way and Ironwood Drive. The options studied and proposed in the Ironwood Segment are not as major as those proposed north of I-90. Current and future traffic demand in this segment is significantly lower than the Coeur d'Alene/Hayden Segment. The type and extent of the required capacity and safety improvements will be significantly less in order to accommodate the expected travel demand.

6.5.1 Initial Options

A set of possible improvements in the Ironwood segment were identified and illustrated in **Figure 6-24**. The figure shows a series of draft traffic control and local street improvements intended to increase the through-carrying capacity of US 95, including:

- Reconstructing the I-90/US 95 interchange for three travel lanes in each direction, dual left turn lanes and a shared use path (bikes and pedestrians);
- Widening US 95 to six travel lanes between I-90 and Ironwood Drive;
- Extension of Ironwood Drive east to 4th Street;
- Widening of Ironwood Drive for dual left turn lanes (west leg) and separate right turn lane (east leg);
- Installation of non-traversable median curbing, with channelization for US 95 left turn lanes (and maybe U-turns) at major intersections;
- Construct a LaCross Avenue under crossing to improve east-west arterial access and improve neighborhood connections across US 95;
- The possibility of improving local, north-south streets, including "C" Street, Nora Avenue, and Median Avenue to provide better neighborhood access and circulation;
- Closing Linden Avenue and the Walnut/Lincoln Street connection at US 95; and
- Conduct a multi-jurisdiction, land use and local street circulation plan.

Other possible solutions in the Ironwood Segment include constructing a partial interchange at Lincoln/Walnut (directional ramps for local access), or a new viaduct along US 95 from north of Appleway to the Spokane River.

Community Input

A special stakeholder meeting was held in August 2001 to discuss the initial improvement options within the Ironwood segment of the study area. The focus of the discussion centered on access to the Kootenai County Medical Center, local street circulation and access problems, future re-development trends, and the constraints surrounding US 95 (mainly right-of-way and built-up lands). Issues identified by the group for further study included: (1) concept of major east-west arterial connector paralleling Ironwood Drive; (2) possibility of a US 95 viaduct from I-90 to Spokane River Bridge; and (3) a grade-separate connection to Walnut and Lincoln Avenues.

The group also discussed another option of a one-way couplet north of the Spokane River using US 95 and possible Government Way. This option was dismissed by those in attendance because of: (1) significant local land use disruption; (2) significant neighborhood impacts; and, (3) traffic circulation problems as the couplet would be four blocks apart.

Ironwood Segment: Initial Options

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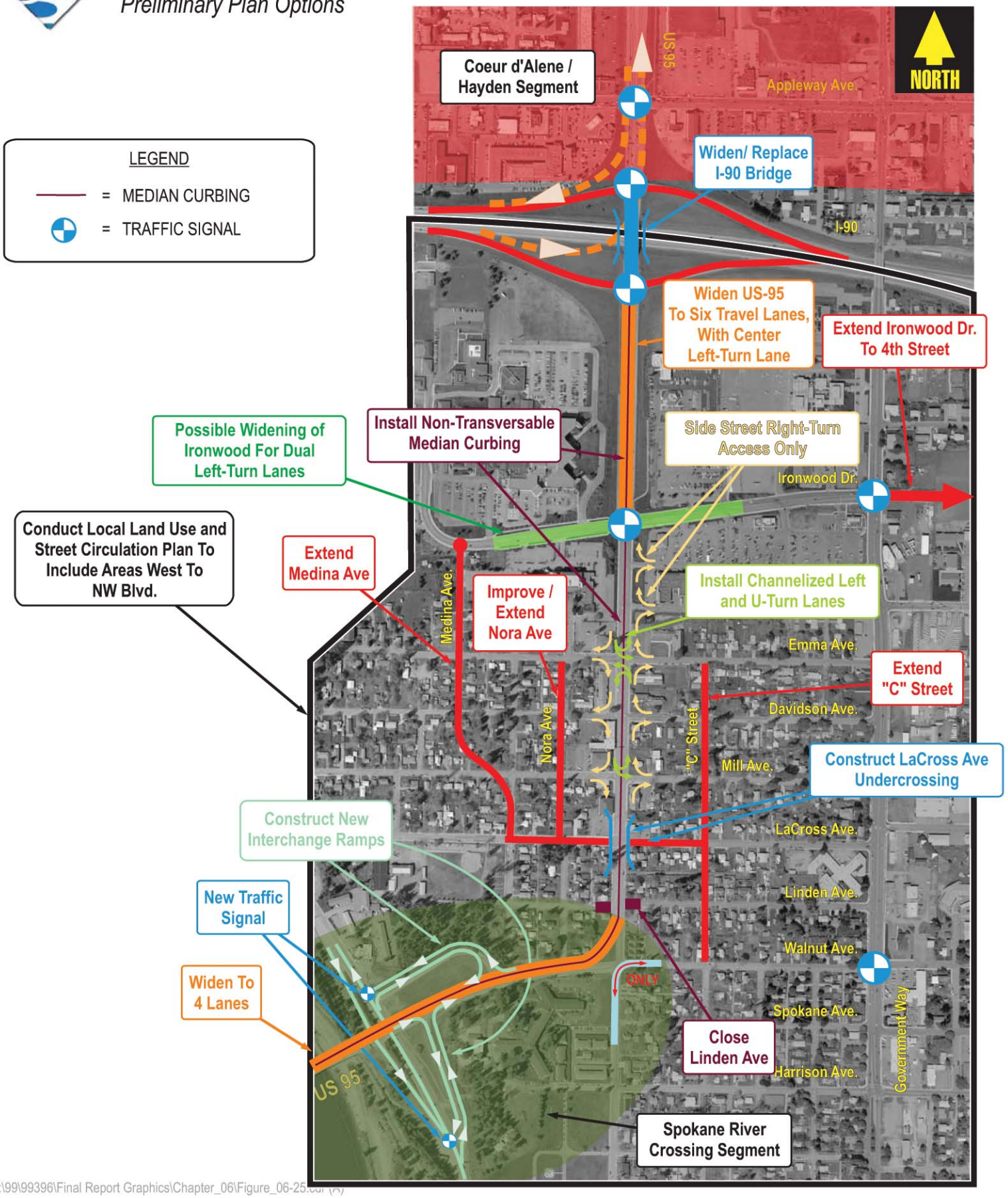
Preliminary Plan Options

Figure 6-24



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6.5.2 Refined Options

Observation of the current and projected area land uses and traffic conditions within the Ironwood segment reveals a generally inadequate local arterial street network and reliance on Ironwood Boulevard for east-west travel to and across US 95 in the immediate area. Further conceptual engineering analysis provided additional findings to help answer questions raised by study participants during previous public open house meetings and in the stakeholder meetings held in the Summer of 2001. These questions are:

- Is the current width of US 95 adequate to install channellized left- and U-turn lanes?
- What local arterial street improvements are needed to support US 95 and the surrounding land uses?
- Can US 95 be fitted with a viaduct to address statewide access management standards for a four-lane, principal arterial through the Ironwood segment area?
- How would a US 95 viaduct in the Ironwood segment fit with the I-90 and Northwest Boulevard interchanges?
- What would the general "footprint" of a viaduct along US 95 look like within the Ironwood segment?
- Is the viaduct needed for acceptable traffic operations within the next 20 years, or can other, less extensive, solutions provide adequate capacity to meet the growth in traffic?

The existing right-of-way along US 95 between Ironwood Drive and Walnut Avenue ranges from 80 to 95 feet. There are presently two travel lanes in each direction with a center, left turn lane on US 95. Adjacent lands include a range of commercial, medical business, general business, and residential uses. Many of the more recent buildings were constructed very near the existing curb and sidewalk facilities.

As illustrated in **Figure 6-25**, the conceptual engineering revealed that there is insufficient space to channellize U-turn pockets at some of the minor street intersections like Lacrosse and Emma Streets without requiring additional right-of-way, while channellized left turn pockets can be accommodated within the existing right-of-way and lane configurations. The purpose of the channelization improvements would be to better protect the future traffic capacity and operations on US 95. However, the result of these improvements would prohibit left turn movements from the minor streets and, without other arterial street improvements in the area, results in placing an even greater traffic burden on the local street system and Ironwood Boulevard.

The intersection of US 95, Walnut Avenue, and Lincoln Way has long been problematic for both state highway and local traffic circulation, access and safety. Without arterial capacity improvements within the area both the Walnut/Lincoln Way and Ironwood Boulevard intersections will degrade to below acceptable traffic operation standards. Hence, the additional conceptual engineering study examined a number of options to develop solutions to these problems. **Figure 6-26** illustrates a series of possible intersection enhancements ranging from simple intersection and local street realignment(s) to full interchange improvements, including the options of extending Harrison Street and a US 95 viaduct. Each of the options includes a partial realignment of US 95 to the west to better accommodate the various intersection or interchange concept designs. The realignment and other future long-term improvements in this area will require additional right-of-way and displace some existing residences or businesses between Ironwood and the Spokane River Bridge.

US 95 Ironwood Segment:
Example of Left and U-Turn Channelization

Figure 6-25

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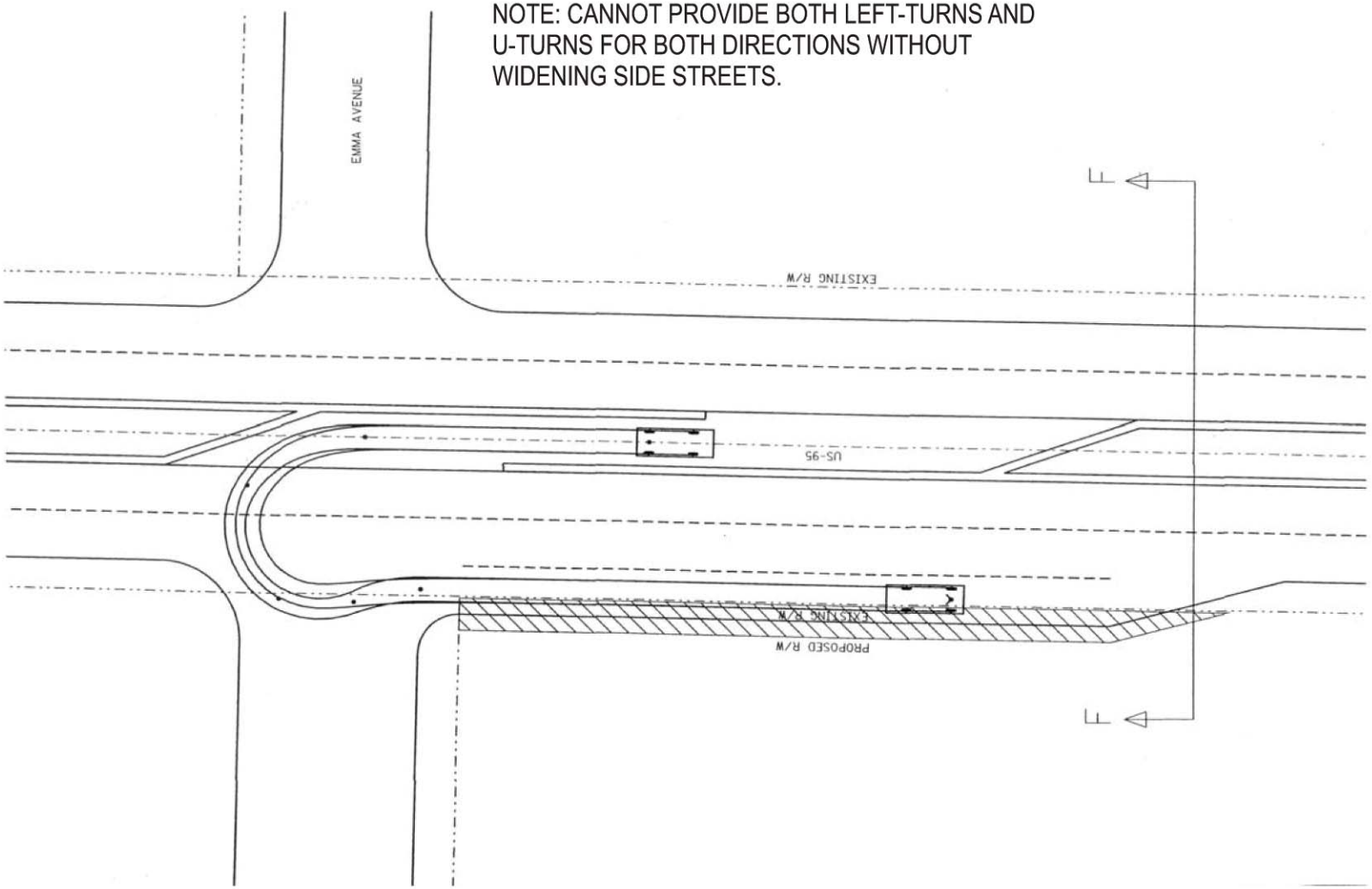
NOTE: CANNOT PROVIDE BOTH LEFT-TURNS AND U-TURNS FOR BOTH DIRECTIONS WITHOUT WIDENING SIDE STREETS.



Ironwood Segment: Harrison Street Connector Options

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Figure 6-26

AT GRADE INTERSECTION

HARRISON ST. DIAMOND INTERCHANGE

PARTIAL INTERCHANGE AT WALNUT / LINCOLN

HARRISON ST. PARTIAL CLOVER-LEAF INTERCHANGE

HARRISON ST. DIAMOND INTERCHANGE AND US 95 VIADUCT

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Technical Performance

An examination of future traffic operations in the area was conducted to ascertain the need and timing of full grade-separation improvement needs at the Harrison Street connection to US 95. The analysis showed that the US 95 /Harrison Street intersection (with traffic signal control) would operate within accepted levels of service in year 2020. With supporting operation analysis of the future traffic conditions (see **Appendix E** - *Supplemental Traffic Analysis Report*) for each of these options the following findings are made:

- Minor intersection improvements at US 95 and Walnut Avenue alone are insufficient to meet future traffic needs.
- The extension of Harrison Street to and across US 95 to Northwest Boulevard, coupled with a new traffic signal at the US 95 at-grade intersection, will better balance the local traffic pattern and greatly reduce future traffic growth on Northwest Boulevard, Ironwood Drive, I-90 and Appleway. *This option would provide the City with the only direct east-west arterial between downtown Coeur d'Alene and I-90.* Analysis of future traffic conditions on US 95 at Ironwood Drive and the new Harrison Street connection revealed acceptable operations during the heaviest peak hour (4:30 to 5:30 p.m.). This option would require the need for additional right-of-way and the displacement of existing homes and businesses.
- A new interchange on US 95 at the Harrison Street Extension would require additional right-of-way and the displacement of existing homes and businesses. This option would also require disconnecting the current ramp connections between US 95 and Northwest Boulevard. Harrison Street and Northwest Boulevard are located too close to each other to fit two interchanges on US 95. This option would significantly improve traffic operations on US 95, but was found unnecessary to meet the future traffic needs on US 95 within the next 20 years.

Further examination of the viaduct option was conducted as part of the conceptual engineering to ensure that a continuous, grade separated highway facility is possible through the Ironwood segment of the study area. **Figure 6-27** illustrates the viaduct footprint in the Ironwood segment and the ability to connect to the I-90 interchange (and possible expressway concept north of I-90) and possible Harrison Street interchange.

With supporting operation analysis of the future traffic conditions (see **Appendix E** - *Supplemental Traffic Analysis Report*) for each of these options, the following findings are made:

- A US 95 viaduct could be designed to connect to the I-90 and new Harrison Street interchanges, but is not needed to meet the needs of future travel demand within the next 20 years;
- The viaduct would require additional right-of-way within an established business corridor, and likely require the displacement of several buildings; and
- This option would fully address the State's access management policies for US 95.

The refined options to improve traffic capacity, circulation and access in the Ironwood segment of the study area are shown in **Figure –28**.

These options would require final engineering, especially for truck turning radii at intersection corners, and an assessment of right-of-way impacts.

US 95 Expressway Option
Ironwood Segment

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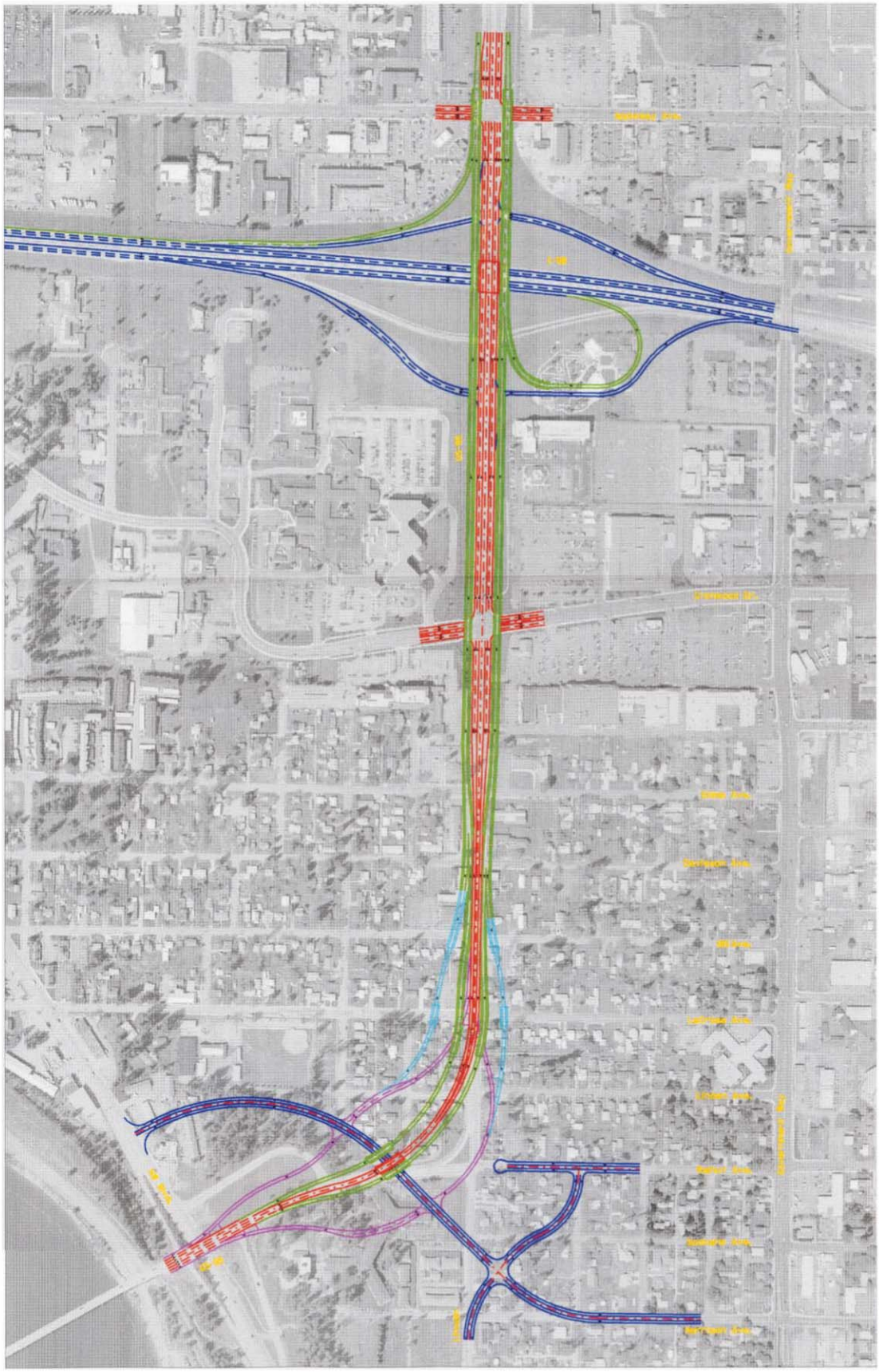
Figure 6-27



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Ironwood Segment: Refined Options

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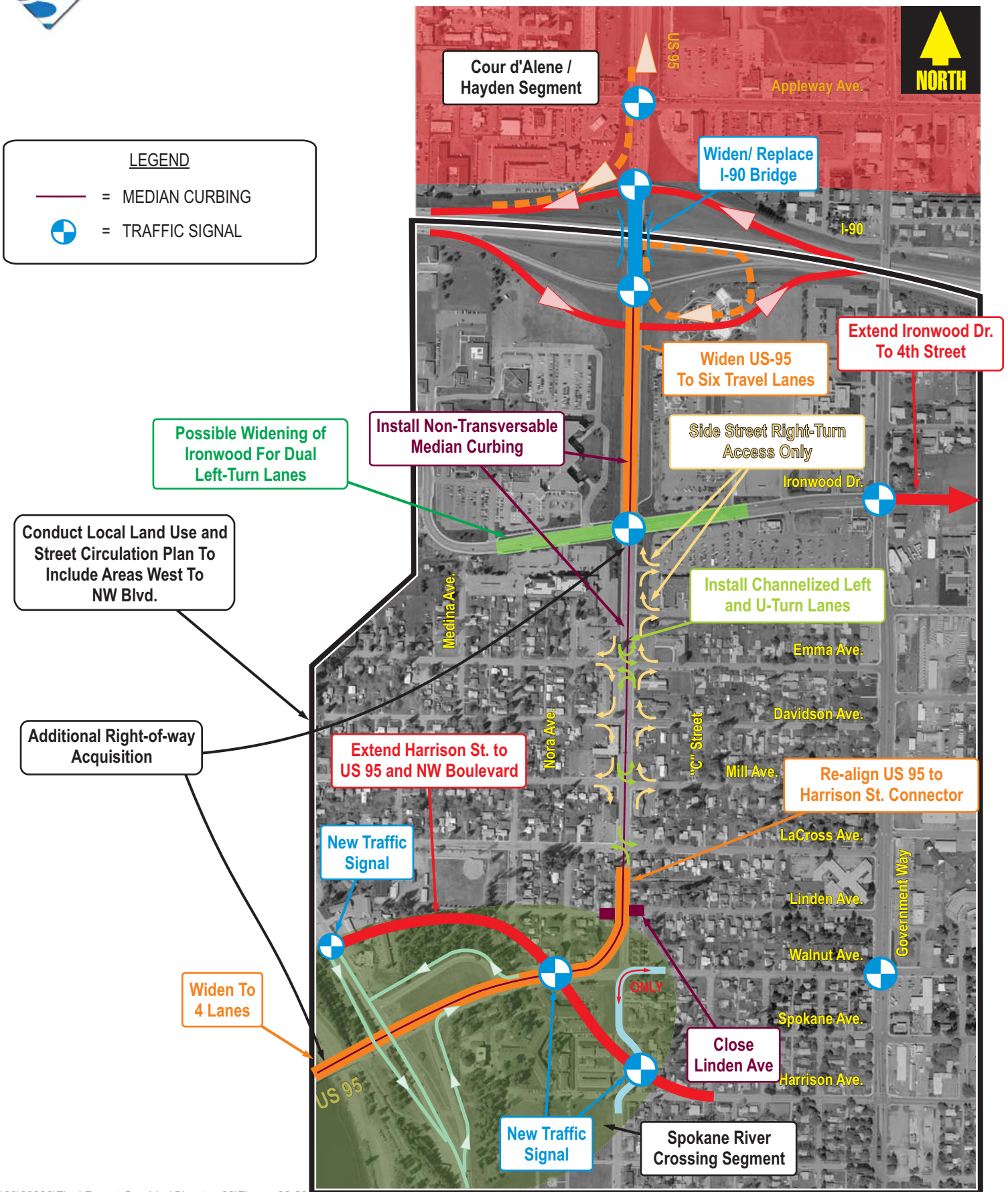
Figure 6-28



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6.6 Spokane River Crossing Segment

To accommodate future travel demand and improve access, capacity, and safety, the Spokane River Bridge and US 95 highway will likely need a number of improvements in this segment. The type and timing of these improvements would vary, depending on whether an alternate route solution is chosen in the Huetter Road corridor, and whether the alternate route is extended across the Spokane River to the west of US 95. These options were developed and discussed as part of the study.

6.6.1 Initial Options

Figure 6-27 illustrates a number of options that address future needs, including widening the Spokane River Bridge to include two travel lanes in each direction and separate-use path for pedestrians and bicyclists. Other improvements include widening US 95 to two travel lanes in each direction and construction of bi-directional ramps to and from Northwest Boulevard.

Technical Performance

The analysis for future traffic conditions in this segment (see **Appendix E**) showed that the current two-lane highway has insufficient capacity to accommodate growth in this segment.

Community Input

A set of stakeholders meetings were held in October 2001 and August 2002 to discuss the initial and refined improvement options of the Spokane River Crossing segment of the study area. The first meeting centered on the Alternate Route option crossing the Spokane River and limitations of local access and public road connection improvements to US 95 if it were widened. There was stated concern regarding the KCATT general route of the Alternate Route across the Spokane River, which generally follows East Riverview Drive, due to the recent designation of a conservation easement along the proposed route. Another suggested route location was identified to run more directly south of Huetter Road, crossing Cougar Gulch, and then connecting back into US 95 further south (see **Figure 6-31**).

The second stakeholder meeting focused on issues and needed improvements along the current US 95 alignment, including:

- Possible solutions to higher speed traffic along US 95 south of Spokane Rive Bridge.
- Traffic operations and safety associated with new boat ramp access at Blackwell Island Road.
- Need for improved access at Blackwell Island Road, Millview Lane and Upland Drive.
- Need for improved, grade-separated bike/ped multi-use path connection south from Centennial trail across Spokane River to Cougar Bay area.

Meeting participants stressed the need for opportunities to enhance the natural and aesthetic environment south of the Spokane River and provide pedestrian/bicycle facilities that linked the Coeur d'Alene area with the nature preserve and other recreational activities south of the Spokane River. A desire was also expressed by participants to replace Cottonwood trees that formerly lined the highway.

Various options to enhance traffic safety in the segment were discussed, including additional enforcement, and installation of advanced warning signs, flashing lights and possible new traffic signals. Further discussion of installing a new traffic signal at Blackwell Island Road yielded concern and general agreement that while it would likely help local street access, it would not solve and may even create additional traffic safety problems on US 95.

Spokane River Crossing Segment: Initial Options

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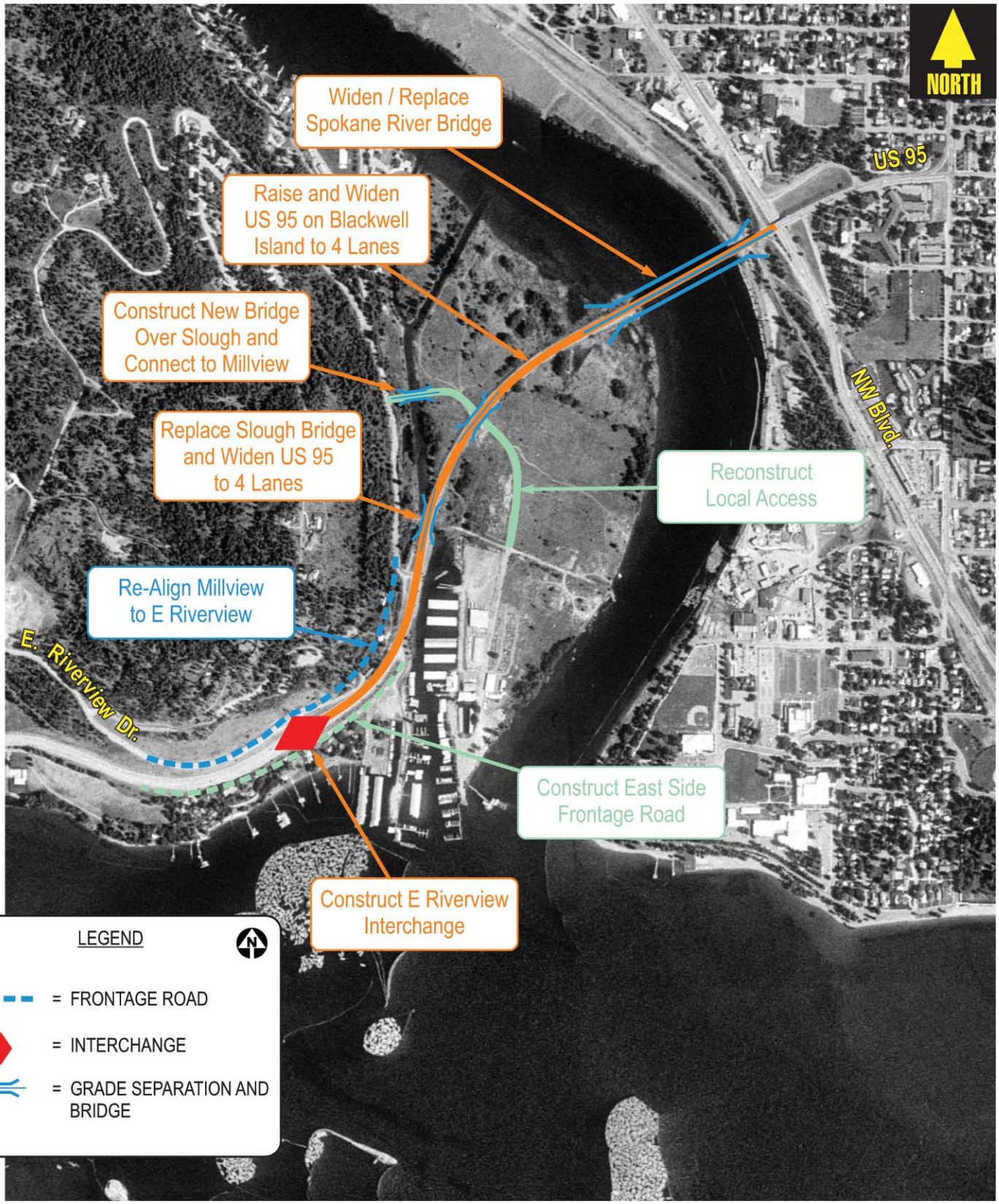
Figure 6-29

Preliminary Plan Options



A possible option to improve local access and circulation includes reconstructing the US 95 / Blackwell Island Road intersection was also discussed. The option included new directional on- and off-ramps and an under crossing of US 95. This option also includes extending Millview Road across the canal to US 95, extending Upland Drive to Millview and disconnecting Upland Drive at US 95, and extending Blackwell Drive under US 95 to the new Upland Drive extension.

Another option was to reconstruct Millview Road with an under crossing of US 95 and a new frontage road on the east side of US 95, up to Blackwell Drive. Discussion ensued that there would be significant wetland impact and difficulty splitting the directional on- and off-ramp access on US 95.

6.6.2 Refined Options

As illustrated in **Figure 6-30**, options to address long-term traffic demand and safety in this segment might include reconstructing the US 95 / Blackwell Island Road intersection with directional on- and off-ramps and an under crossing of US 95. This option includes extensions of Millview Road, Upland Drive and Blackwell Drive to remove at-grade access points in this segment in order to improve access and safety conditions. Furthermore, the Spokane River Bridge could be widened to include four travel lanes and a shared-use path for bicycles and pedestrians. All of these options will be subject to further engineering and feasibility analysis.

Short-term improvement options could include enhancing safety along US 95 between the Spokane River and Upland Drive where the northbound speed limit is reduced from 60 mph to 45 mph. Community members suggested adding signs and flashing lights to help alert drivers to the speed limit change.

As part of the Subarea Group discussion of the Spokane River Crossing segment, there was stated concern by some study participants that the Huetter Alternate route suggested by the Kootenai County Area Transportation Study (KACTS) south of the Spokane River traversed a recently designated conservation area. **Figure 6-31** illustrates a number of concepts that link the possible Huetter Alternate Route option to US 95 south of the Spokane River. Each of these routes would traverse steep terrain, through a predominantly rural residential area.

6.7 Mica to Cougar Creek Segment

South of Blackwell Island, the surrounding lands in the study area are generally rural. Travel on US 95 is largely intercity and commuter traffic to and from Coeur d'Alene. US 95 is generally a two-lane highway, with wide shoulders and in some cases includes a passing/climbing lane. Near Cougar Gulch Road, US 95 is a four-lane highway, adjacent to a number of environmentally sensitive lands and water bodies (see **Figure 6-31**).

6.7.1 Initial Options

As shown in **Figure 6-32**, the initial option to improve US 95 operations and safety and provide sufficient future capacity is to widen it to four travel lanes and construct interchanges at major locations. (ITD has funding programmed to complete the highway widening to four lanes, this project is scheduled for 2003.) These improvements would require local road extensions and frontage road connections to provide local access in the community.

Technical Performance

The analysis for future traffic conditions in this segment (see **Appendix E**) showed that the current two-lane highway has insufficient capacity to accommodate growth in this segment.

Community Input

Comments from October 2001 and August 2002 stakeholder meetings and ITD Staff have helped confirm the corridor's environmental constraints and rural highway traffic control measures used elsewhere in the US 95 corridor.

Spokane River Crossing Segment: Refined Options

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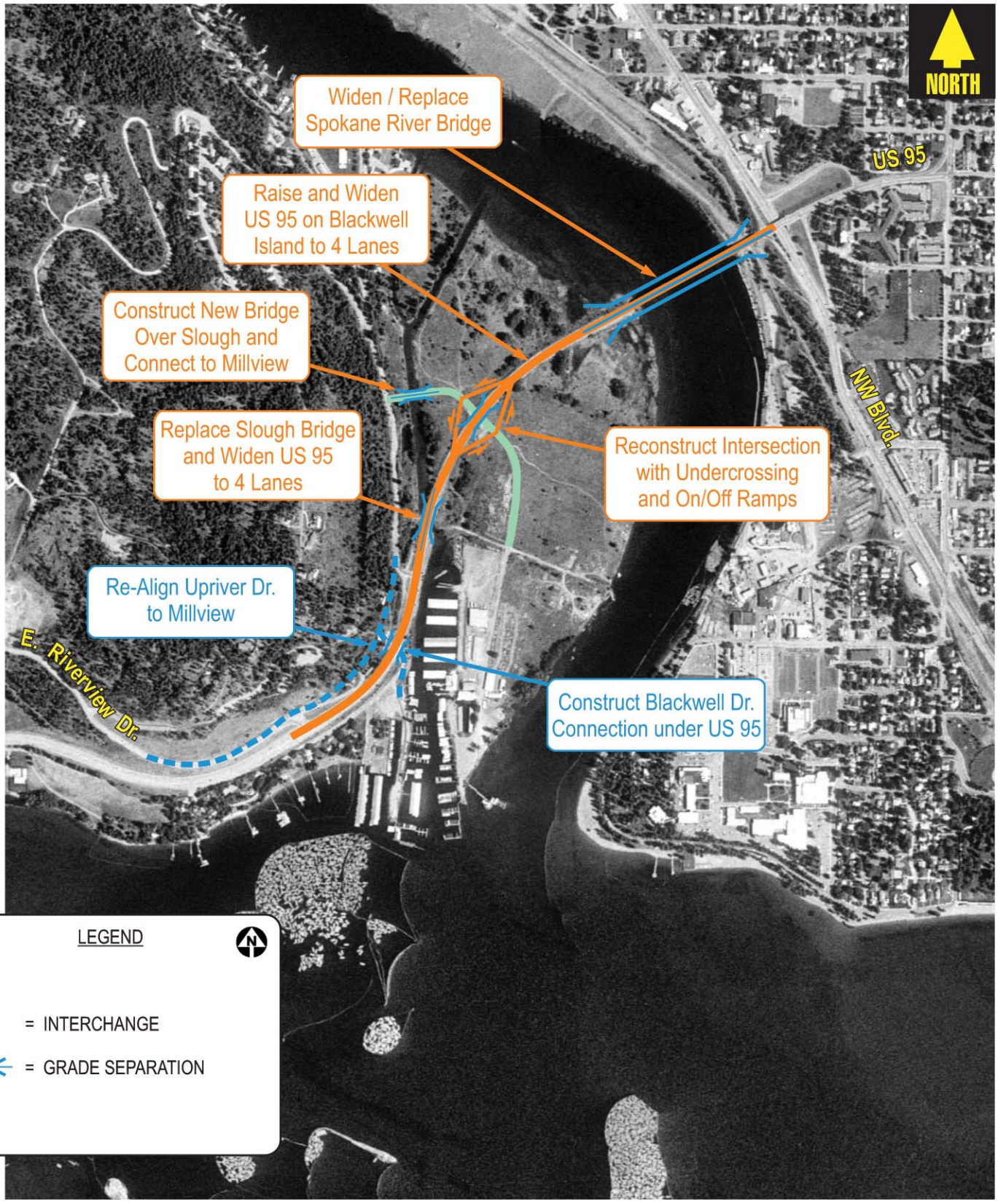
Figure 6-30



Huetter Road Alternate Route Option

Figure 6-31

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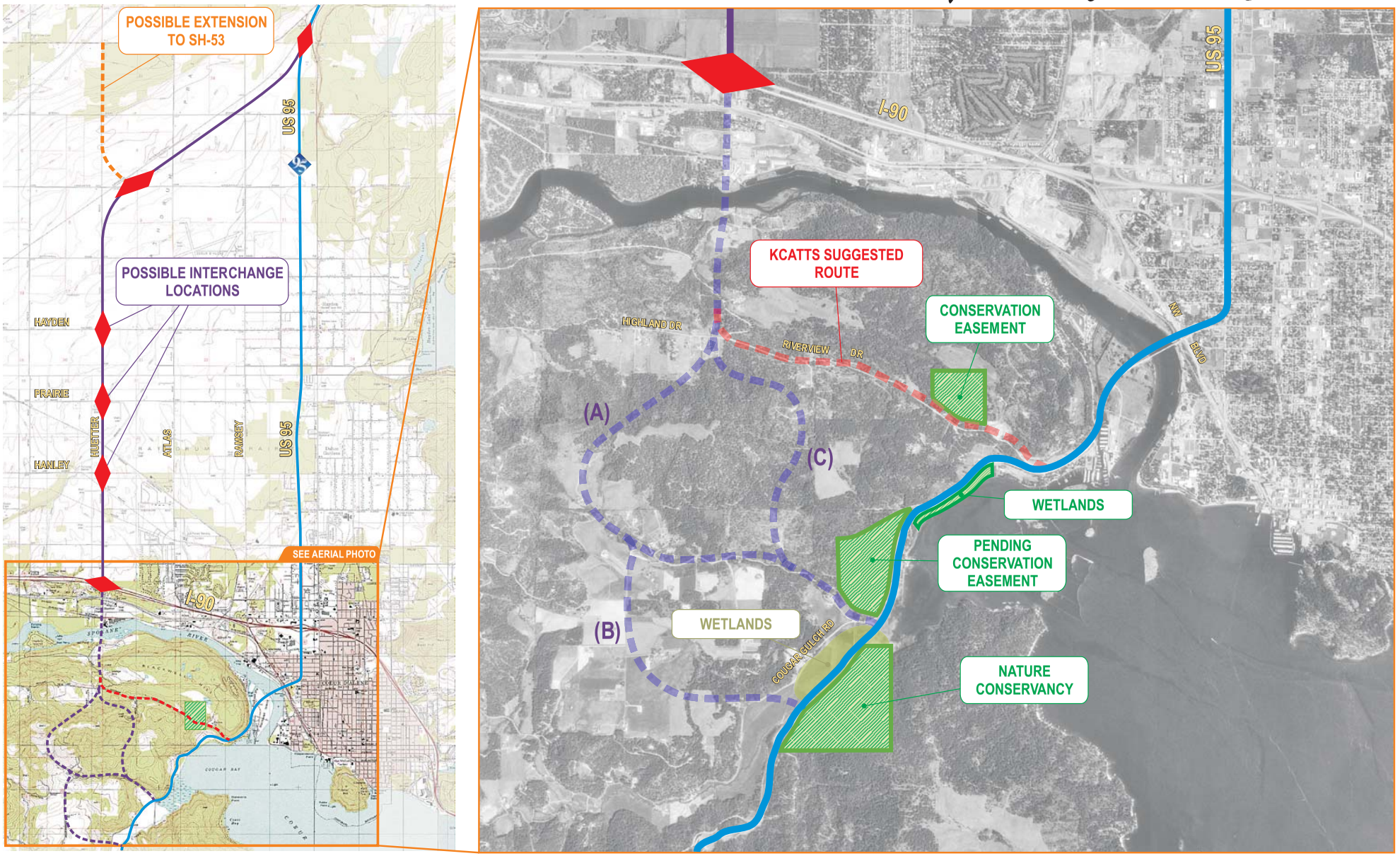
Possible Southern Extension



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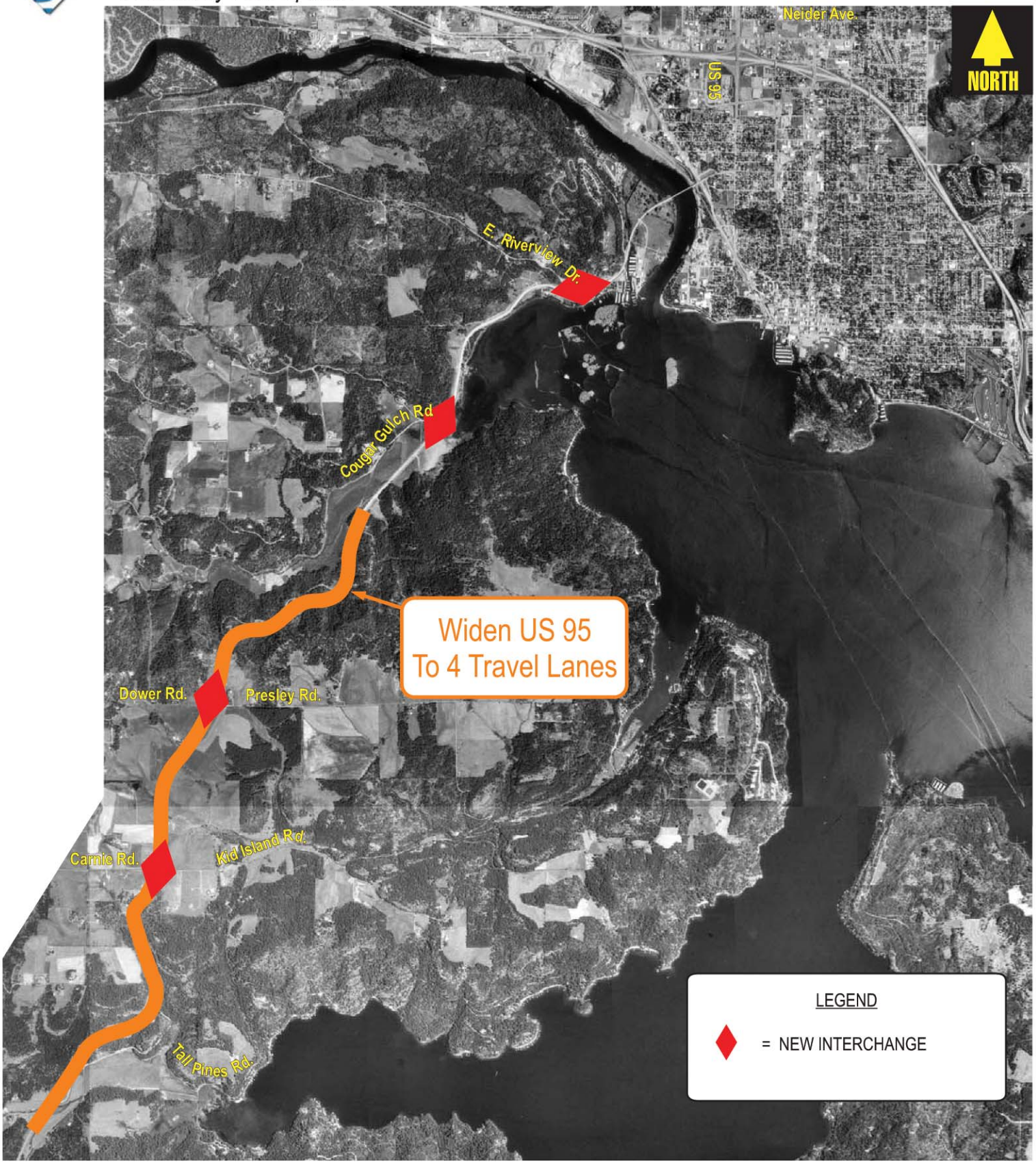
Mica Creek/ Cougar Gulch Segment: Initial Options

DISTRICT 1
Idaho Transportation Department

Figure 6-32

Preliminary Plan Options



6.7.2 Refined Options

As illustrated in **Figure 6-33**, options to address long-term traffic demand and safety in this segment, to accompany the widening of US 95 to four travel lanes, include median u-turn traffic control enhancements at major intersections. These options will be subject to further engineering analysis, but include the reconfiguring of public road intersections and private access points to better meet ITD's access management policy.

6.8 Bicycle and Pedestrian Systems

Many Study participants expressed their concern regarding bicycle and pedestrian access, circulation and safety. Consideration and planning for bicycle and pedestrian travel was integrated in the development and evaluation of options within each of the Study segments. The examination of bicycle and pedestrian needs was facilitated through the forming and meeting of a bicycle/pedestrian focus group, which met in August 2001.

6.8.1 Initial Options

Community Input

The bicycle/pedestrian focus group focused on two major topics within the study area: (1) pedestrian and bicycle design options for both the alternate route and expressway concepts; and (2) making a connection for bicyclists and pedestrians between the US 95 corridor and Centennial Trail.

In general, the group favored maintaining a separate pathway, either along the existing US 95 corridor alignment, or along the Huetter Road Alternate Route option. The bicycle and pedestrian discussion expanded to include a number of community desires for (1) improved bicycle and pedestrian connections to link US 95 and area neighborhoods with the public park/ball field along Lancaster, (2) continued access and facility maintenance of the designated equestrian trail along US 95 and in the area, (3) extending the US 95 separate pathway north, making a Sand Point connection, and (4) coordination with local plans to create a Rathdrum/Spirit Lake/Garwood pathway loop.

6.8.2 Refined Options

Figure 6-34 illustrates two options to incorporate cyclists and pedestrians near US 95 (north of Wyoming Avenue) or the Huetter Alternate Route. **Figure 6-35** illustrates the possible shared-use path connectors to link the US 95 and Centennial Trail paths within the Kathleen Avenue area.

Mica Creek/ Cougar Gulch Segment: Refined Options

DISTRICT 1
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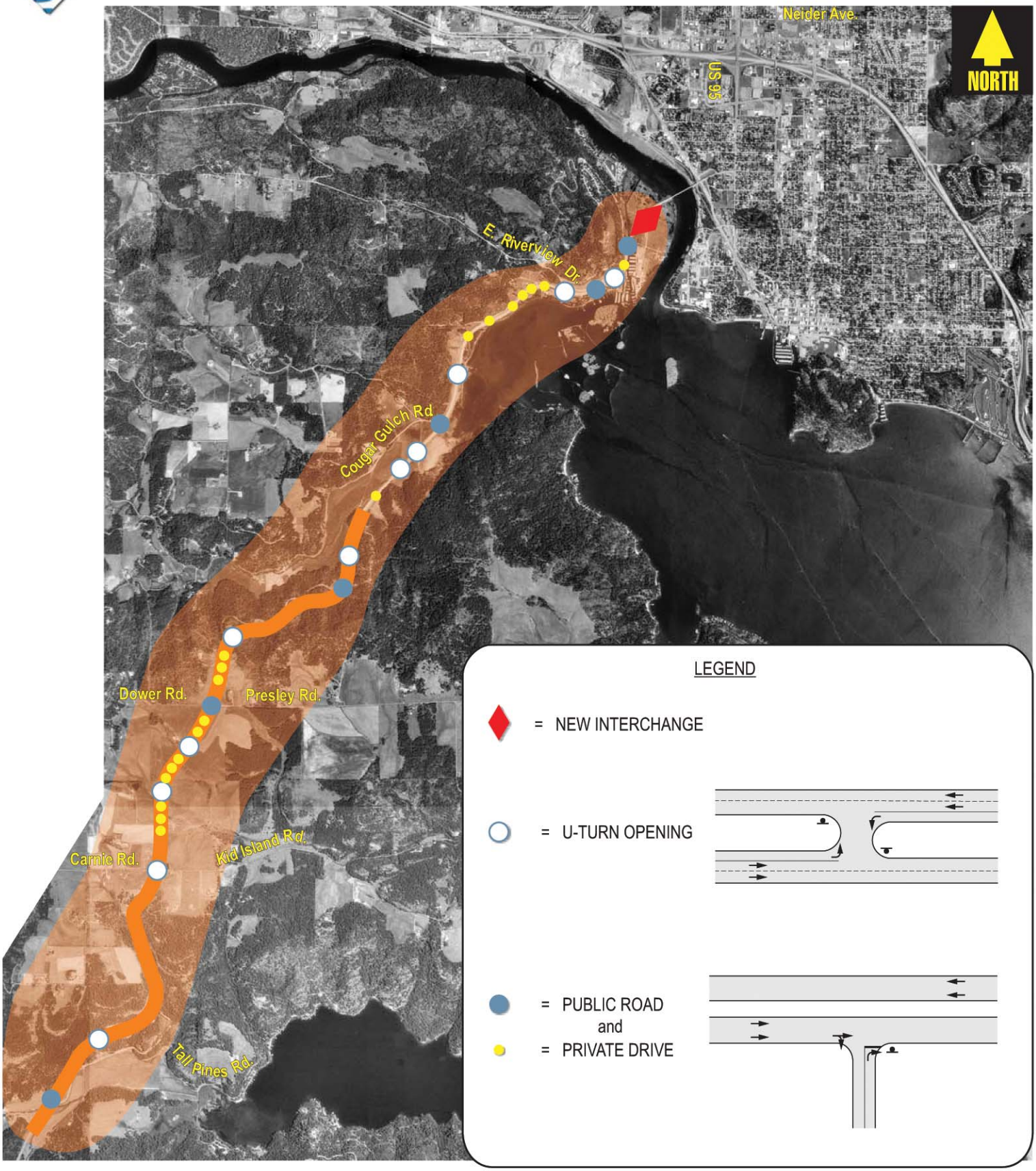
Figure 6-33



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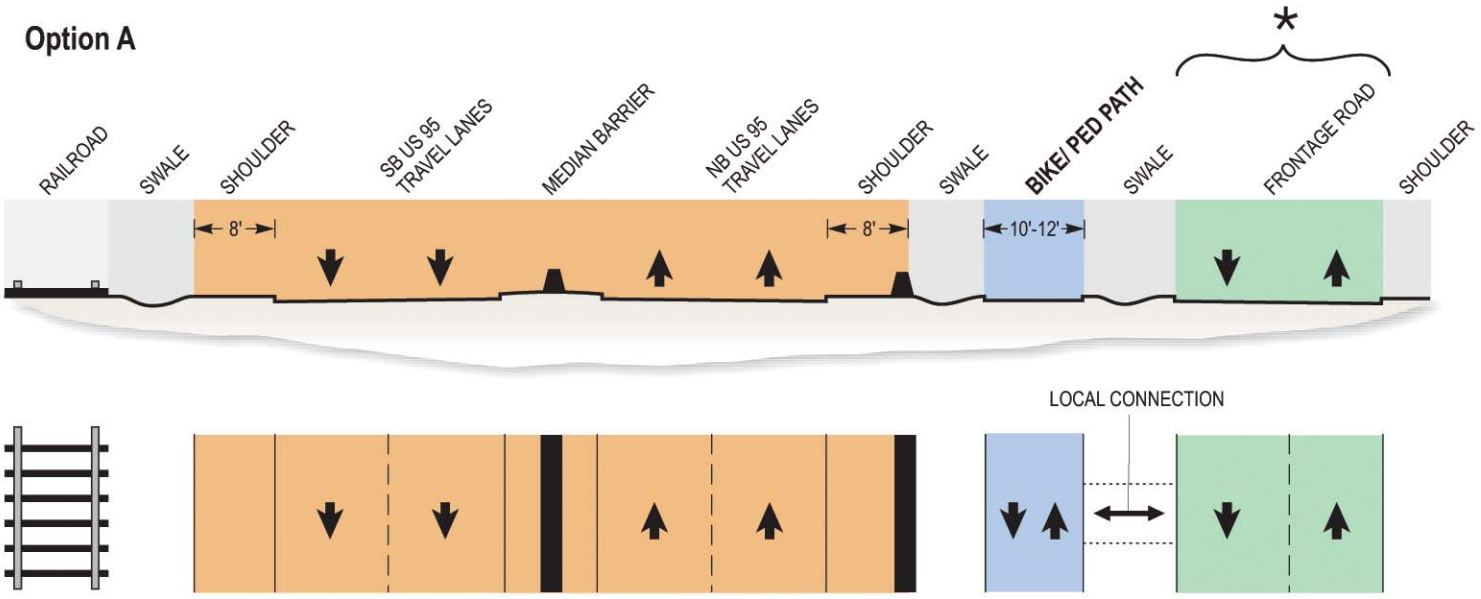
Bicycle / Pedestrian Facility Options

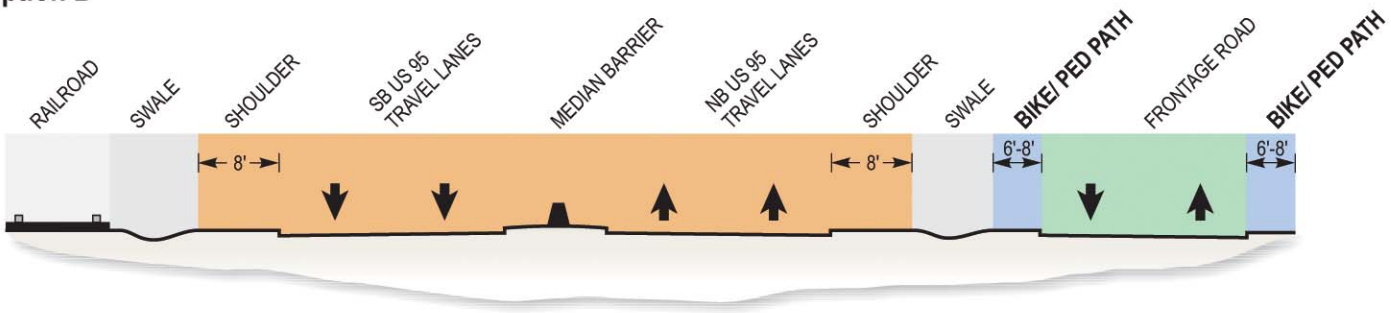
DISTRICT 1
Idaho Transportation Department

Figure 6-34a

Option A



Option B



* Right-of-way and location unknown - concept only

Bicycle / Pedestrian Facility Options
Centennial Trail Connections

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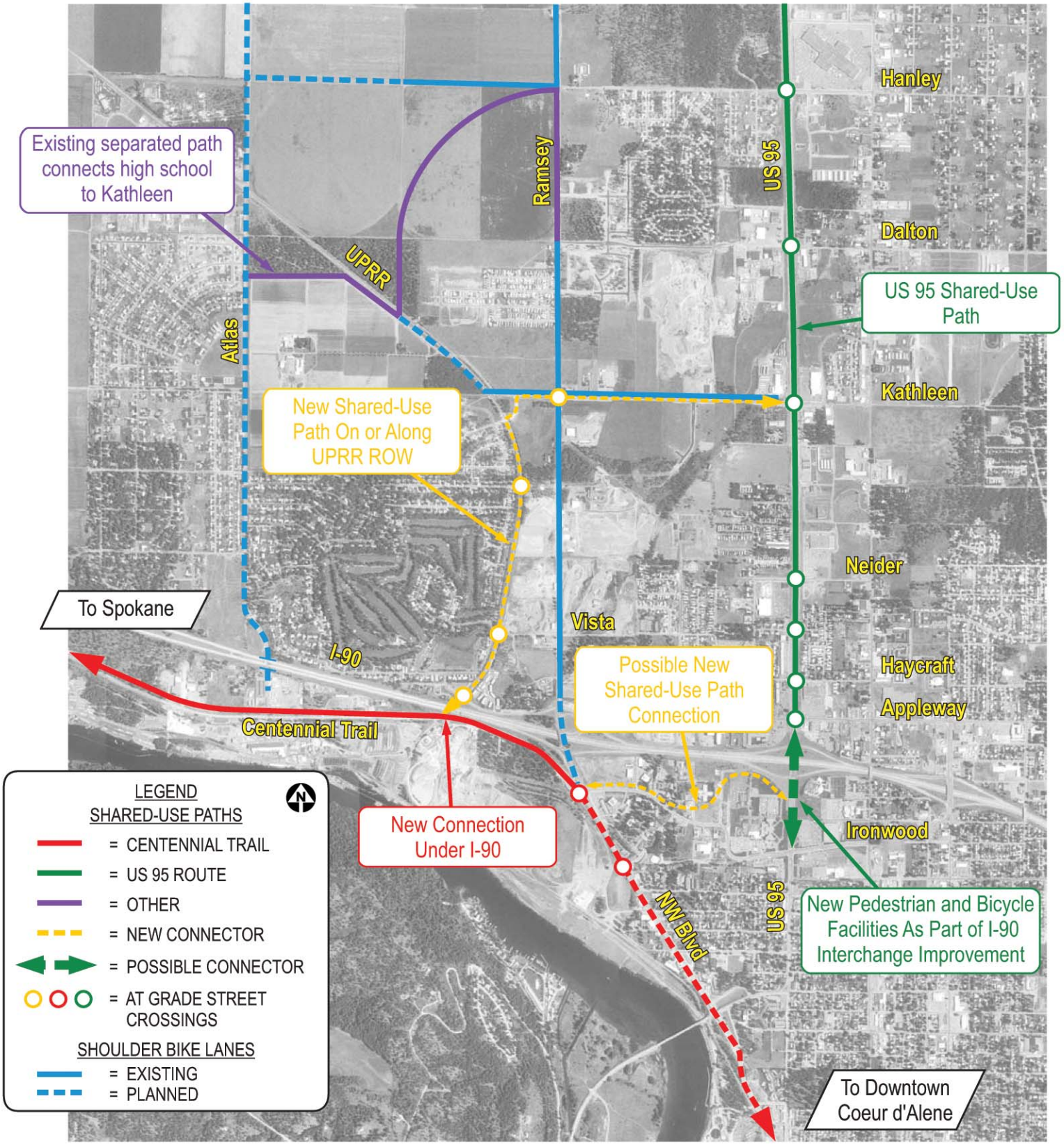
Figure 6-34b



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6.9 Possible Solution Packages

Findings from the public involvement to date, Focus Group meetings, subarea group meetings, and follow-up studies were assimilated to develop and evaluate a set of Draft Solution Packages that best met the Study goals. These Draft Solution Packages were evaluated by the Project Team and Joint Advisory Committee, and a set of Refined Solution Packages were identified and evaluated based on the Study criteria.

Many combinations of options beyond those analyzed in this study are possible. The following presents information on the technical performance of several possible solution packages. When an environmental evaluation is undertaken for US 95 in the future, these and other combinations of options may be further developed.

6.9.1 Description of Solution Packages

Figure 6-35a and **Figure 6-35b** illustrate the Draft Solution Packages. The Draft Solution Packages include a range of expressway concept solutions either along the current US 95 alignment or in the Huetter Road corridor, widening US 95 to six travel lanes (three in each direction) between I-90 and SH-53, and only local arterial improvements. Based on the study findings to date, six solution packages were identified for the Joint Advisory Committee examination:

1. Huetter Alternate Route and widen US 95 to six lanes;
2. Huetter Alternate Route and Local Arterial Improvements;
3. Huetter Alternate Route with Extension South Across Spokane River;
4. Huetter Alternate Route and US 95 Expressway;
5. US 95 Expressway with Frontage Roads, Overcrossings and On-/Off-Ramps; and
6. US 95 Expressway with Frontage Roads and Local Arterial Improvements.

6.9.2 Technical Performance

Future travel characteristics (similar to those summarizing the improvement options in Section 6.2) on US 95 in the study area were measured using the travel demand model, for each of the Draft Solution Packages. These characteristics were grouped by travel demand, traffic congestion, and performance measures. Travel demand measures on US 95 were summarized by vehicle miles of travel (VMT) and vehicle hours traveled (VHT) statistics. **Figure 6-36** summarizes the VMT and VHT variation on US 95 amongst the Draft Solution Packages. Traffic congestion measures on US 95 were summarized by vehicle hours of delay (VHD) and average delay on US 95. **Figure 6-37** summarizes the VHD and average delay variation on US 95 amongst the Draft Solution Packages. The estimated average travel time and average travel speeds indicate the performance of US 95. **Figure 6-38** illustrates the travel performance characteristics on US 95 for each of the options. **Appendix E** summarizes more detailed traffic operations analyses on US 95 for each of the Draft Solution Packages.

In terms of travel demand, VMT and VHT measures indicate that future traffic on the Huetter Alternate Route will perform well under the Huetter Alternate Route solution packages, but these options will not reduce the level of future traffic demand on the current US 95 route to a tolerable level (except the Huetter Alternate Route and US 95 Expressway option). As summarized in **Appendix E**, the future traffic demand on US 95 (at some of the major intersection) will continue to exceed LOD "D" standards under the Huetter Alternate Route/Widen US 95 to 6 Lanes solution package. In terms

of traffic congestion, those solution packages including a US 95 expressway option have the greatest impact on reducing existing traffic delay on US 95. The shortest travel times and highest average travel speeds on US 95 result from those solution packages that include a US 95 expressway option.

US 95 Corridor - Draft Solution Packages

Figure 6-35A

DISTRICT 1
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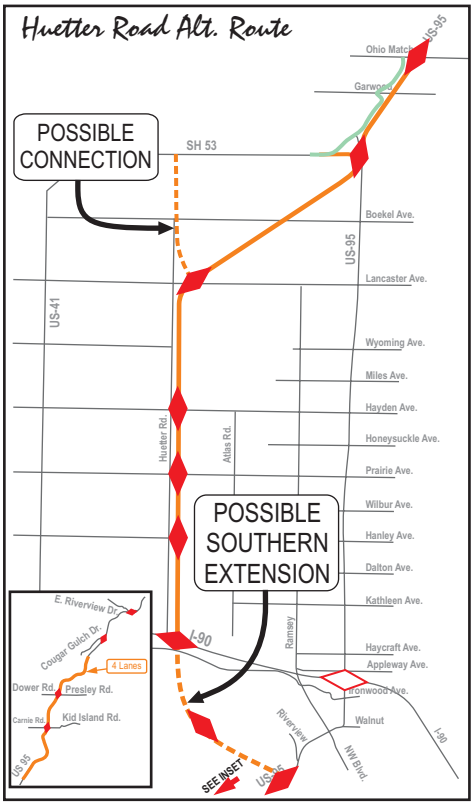
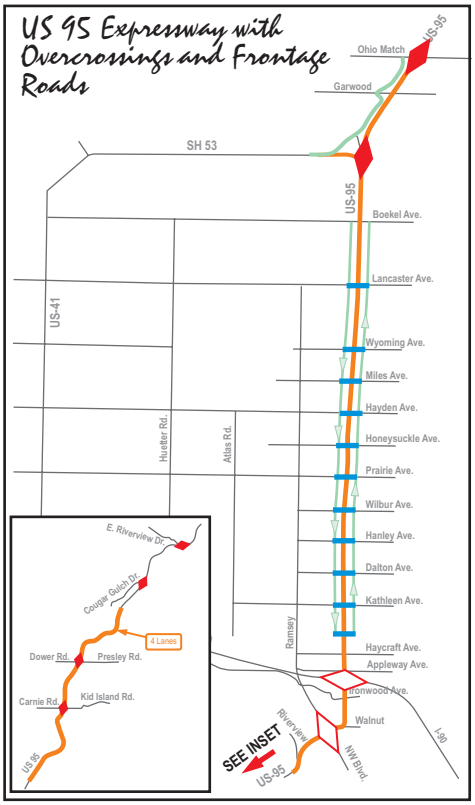
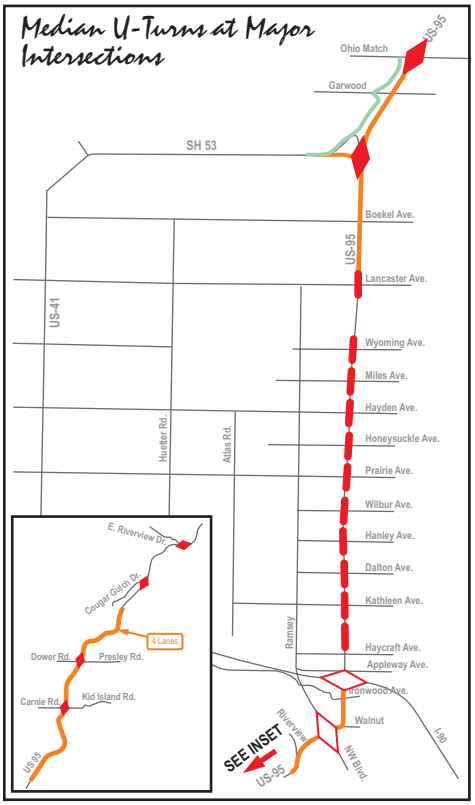
Huetter Road Alt. Route



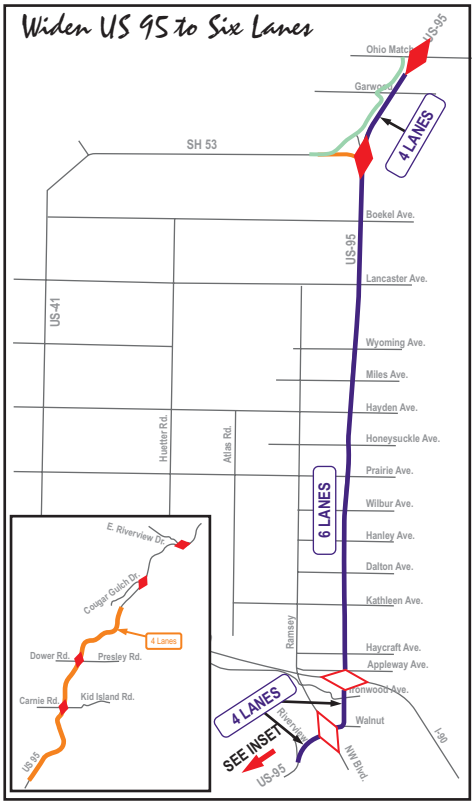
US 95 Expressway with Overcrossings and Frontage Roads



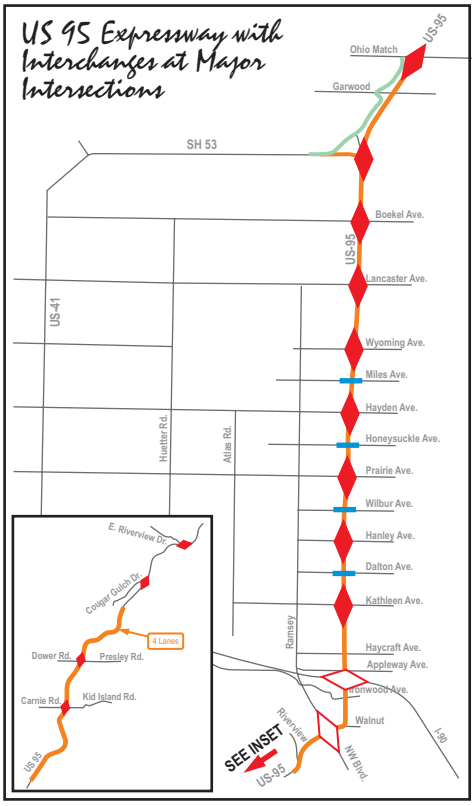
Median U-Turns at Major Intersections



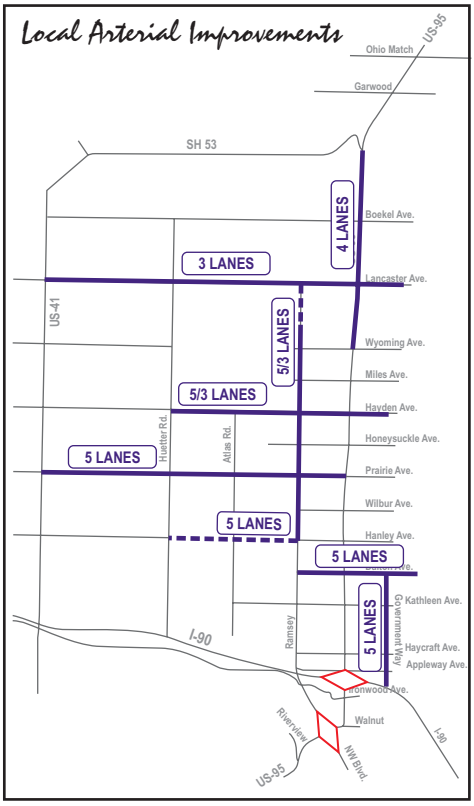
Widen US 95 to Six Lanes



US 95 Expressway with Interchanges at Major Intersections

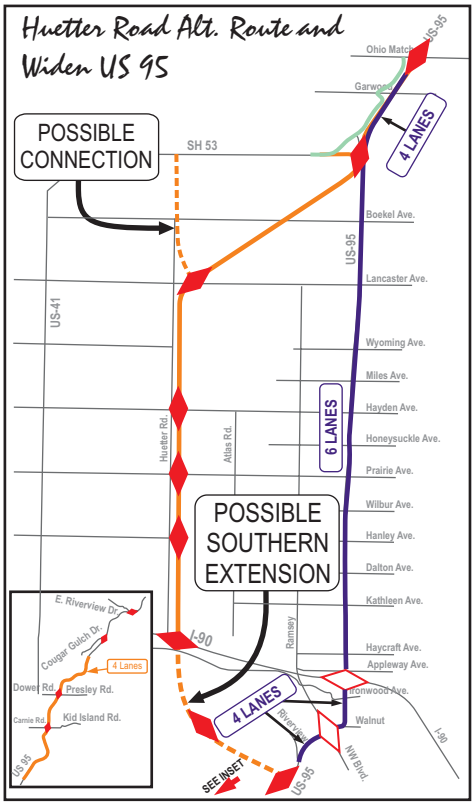


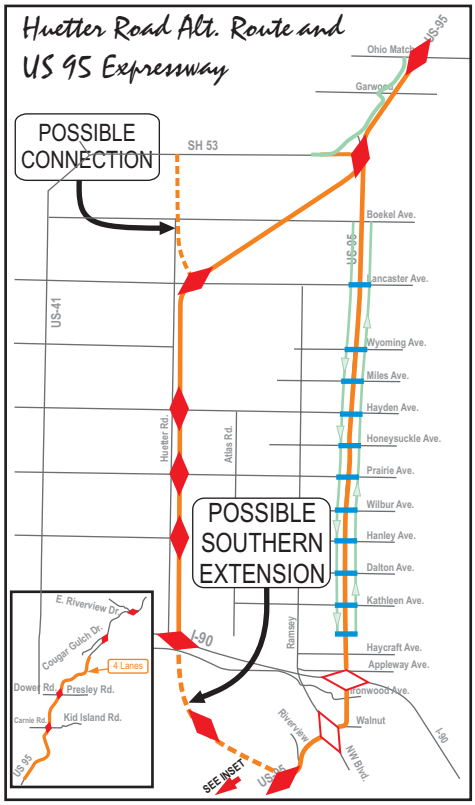
Local Arterial Improvements



US 95 Corridor - Draft Solution Packages

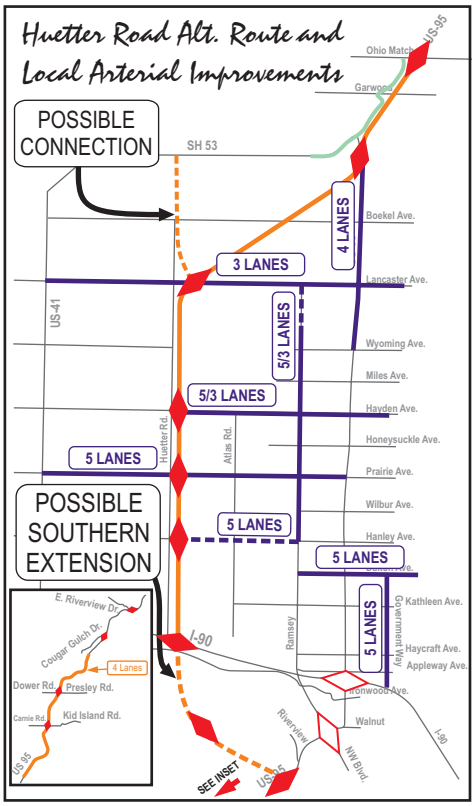
Figure 6-35B





LEGEND

- = HIGHWAY / EXPRESSWAY IMPROVEMENTS
- = NEW INTERCHANGE
- = INTERCHANGE IMPROVEMENT
- = NEW OVERCROSSING
- = SINGLE POINT URBAN INTERCHANGE
- = ROUNDABOUT
- = MEDIAN U-TURN
- = FRONTAGE ROAD
- = STREET WIDENING



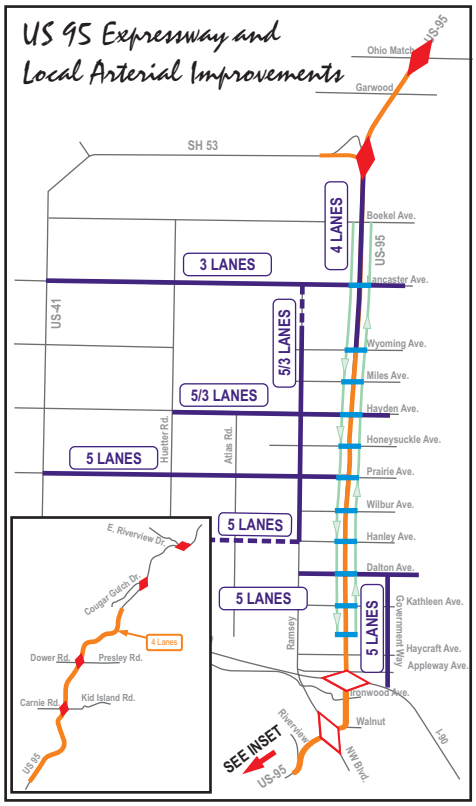
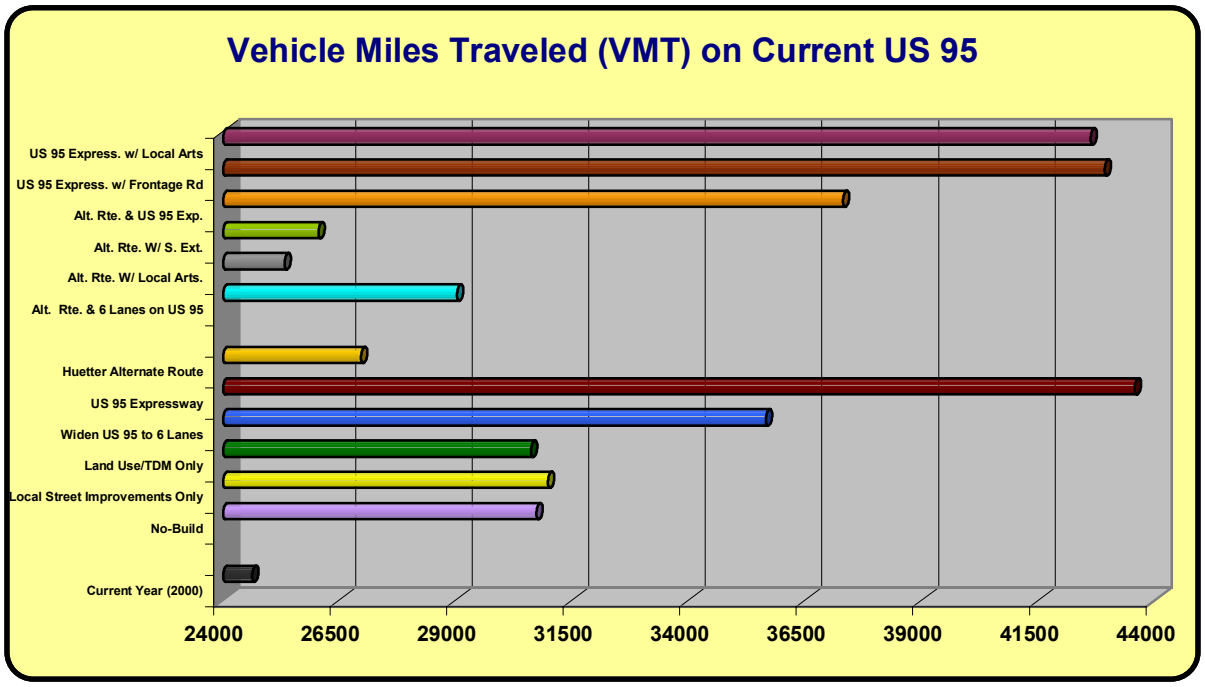


Figure 6-36. US 95 Travel Demand Measures - Draft Solution Packages



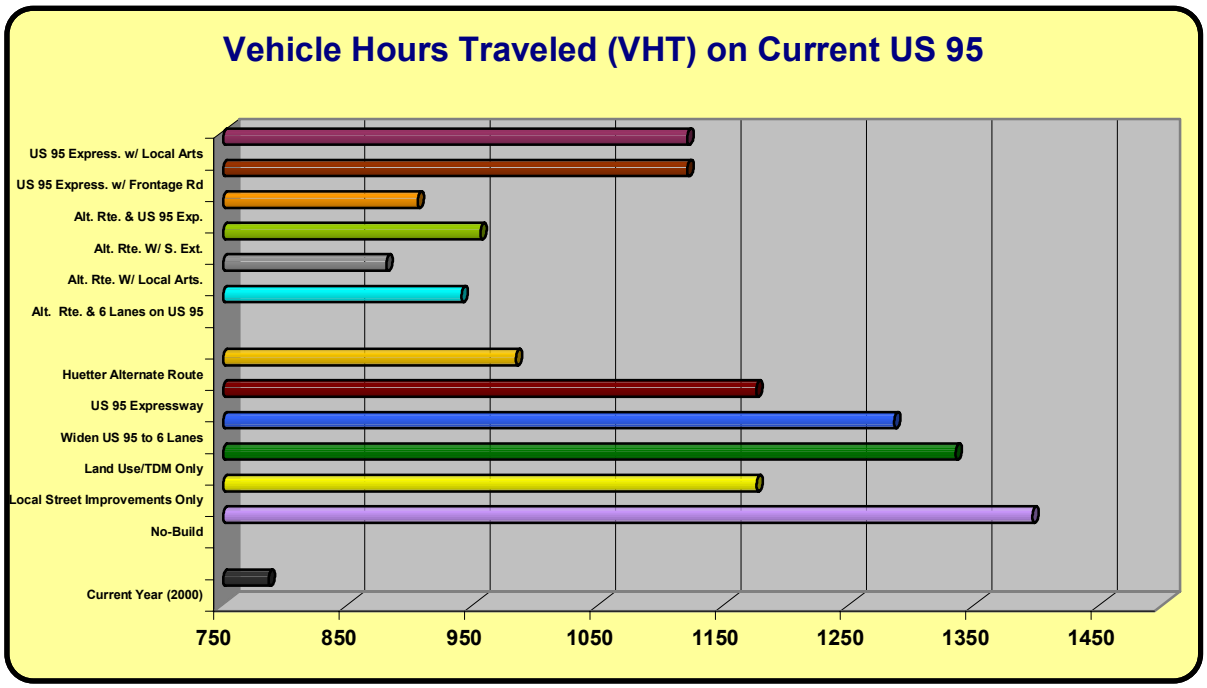
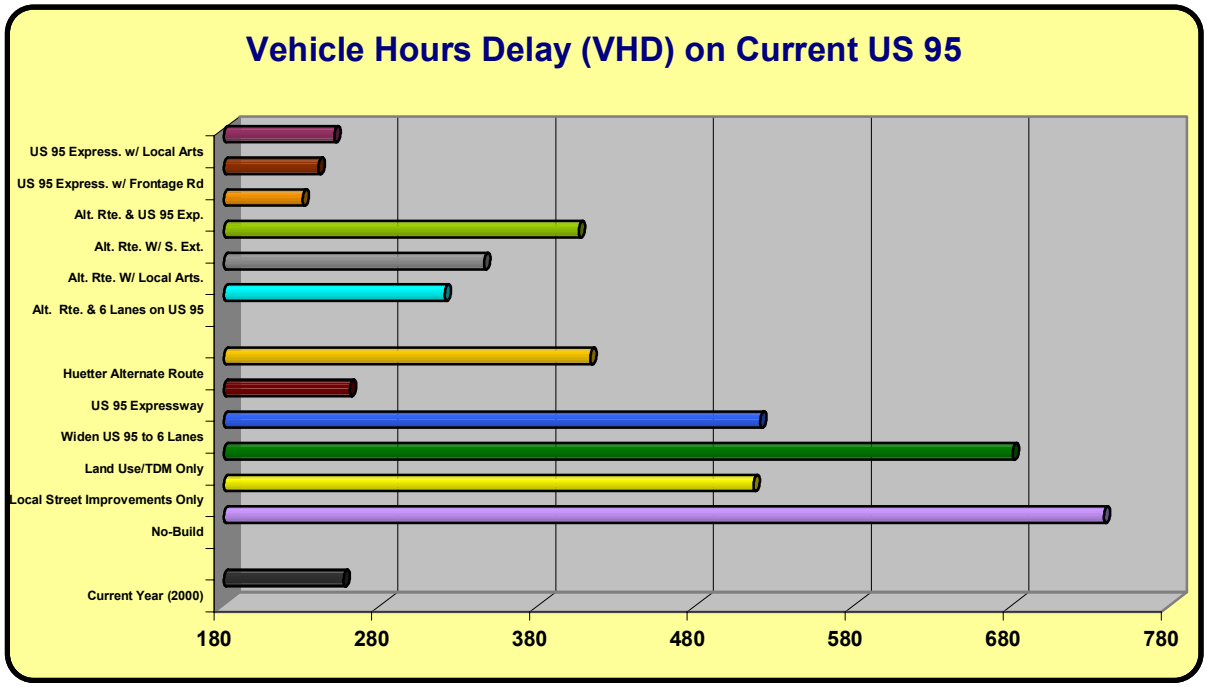


Figure 6-37. US 95 Traffic Congestion Measures - Draft Solution Packages



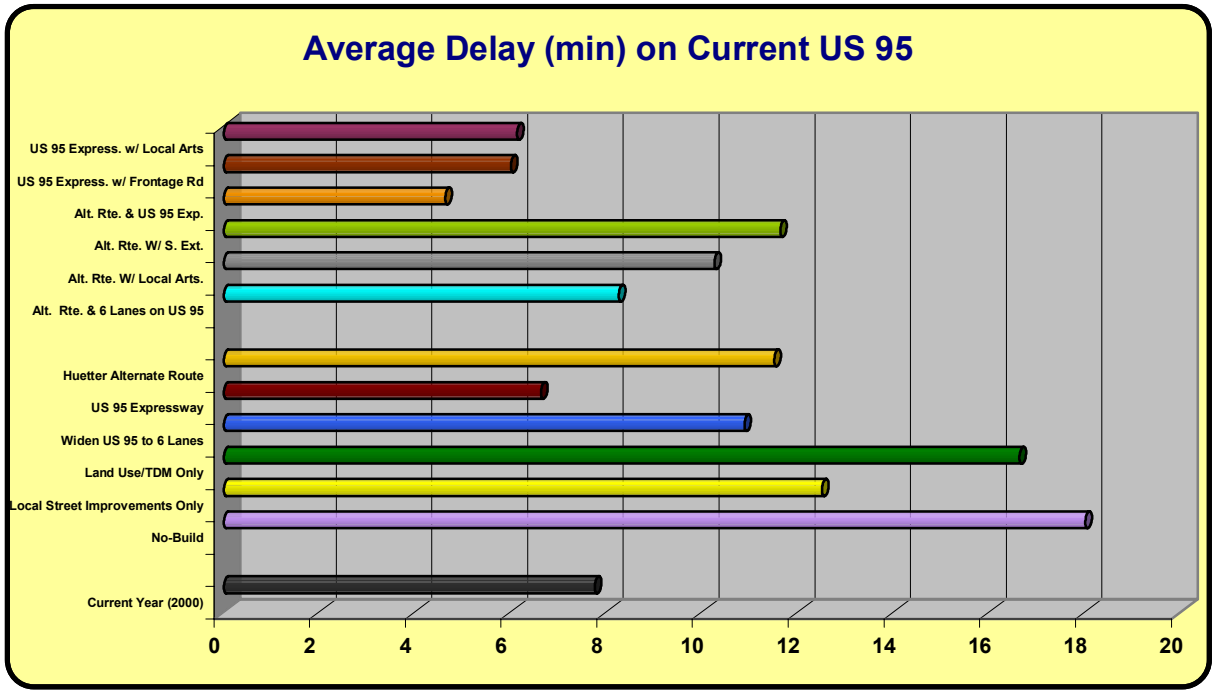
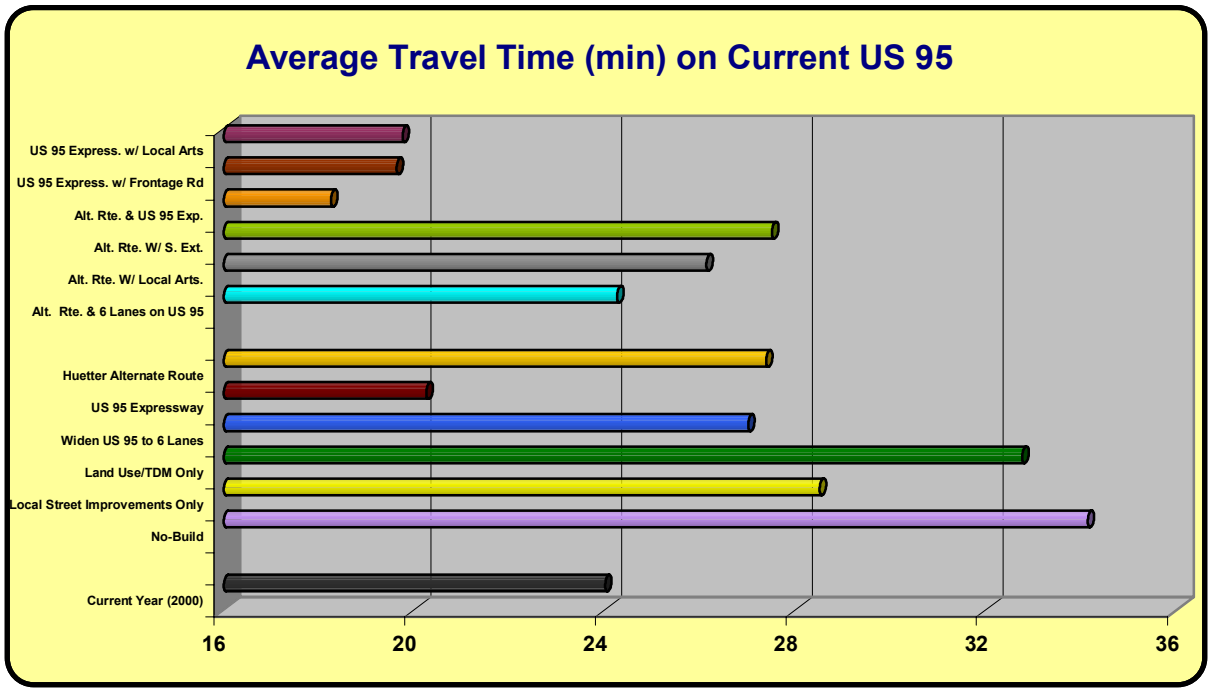
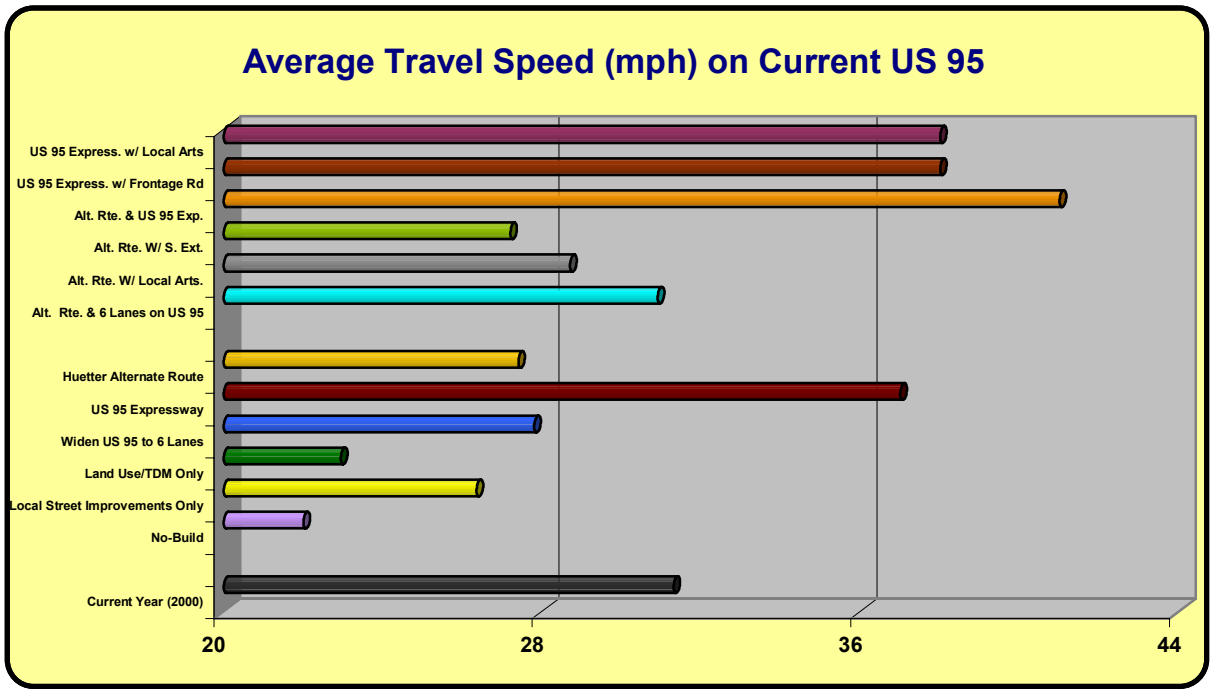


Figure 6-38. US 95 Performance Measures - Draft Solution Packages



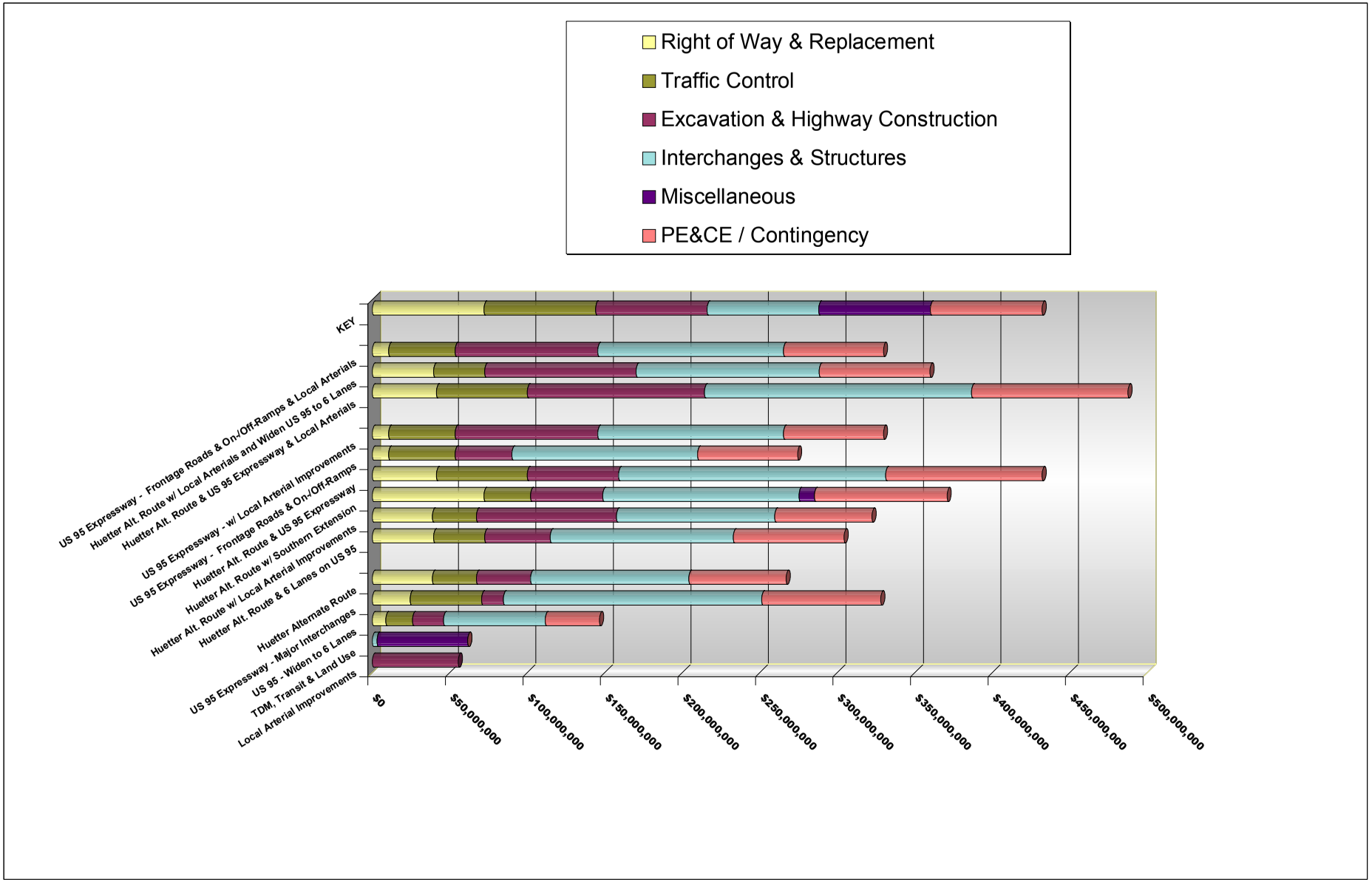


6.9.3 Planning-Level Cost Estimates

A set of planning level cost estimates for the various improvement options and Draft Solution Packages were made to aid the evaluation process. Cost estimates were calculated in year 2000 dollars by the following major cost categories:

- Right-of-way and Land/Building Replacement
- Traffic Control
- Excavation and Highway Construction
- Interchanges and structures
- Miscellaneous
- Engineering and Contingency

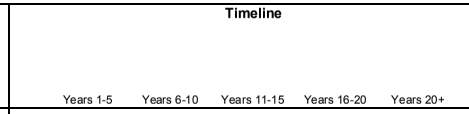
Figure 6-39 summarizes the planning level cost estimates for each of the Draft Solution Packages. As shown, the US 95 Expressway option (A), which involves considerable structure costs, is estimated to cost about $340 million, and the Huetter Alternate Route option (B), which involve considerable right-of-way and structure costs, is estimated to cost about $304 million. Option "C," which combines the US 95 Expressway, Huetter Alternate Route and local arterial improvements is estimated to cost about $432 million. The other options to widen US 95 to six lanes, construct median u-turns, or improve the local street system cost in a range from $55-$140 million. **Appendix F** summarizes the planning-level cost estimates.


Right of Way & Replacement
Traffic Control
Excavation & Highway Construction
Interchanges & Structures
Miscellaneous
PE&CE / Contingency
KEY
US 95 Expressway - Frontage Roads & On-/Off-Ramps & Local Arterials
Huetter Alt. Route w/ Local Arterials and Widen US 95 to 6 Lanes
Huetter Alt. Route & US 95 Expressway & Local Arterials
US 95 Expressway - w/ Local Arterial Improvements
US 95 Expressway - Frontage Roads & On-/Off-Ramps
Huetter Alt. Route & US 95 Expressway
Huetter Alt. Route w/ Southern Extension
Huetter Alt. Route w/ Local Arterial Improvements
Huetter Alt. Route & 6 Lanes on US 95
Huetter Alternate Route
US 95 Expressway - Major Interchanges
US 95 - Widen to 6 Lanes
TDM, Transit & Land Use
Local Arterial Improvements
$0
$50,000,000
$100,000,000
$150,000,000
$200,000,000
$250,000,000
$300,000,000
$350,000,000
$400,000,000
$450,000,000
$500,000,000

Potential Implementation Strategy

FIGURE 6-40A

Option "A": Huetter Alternate Route



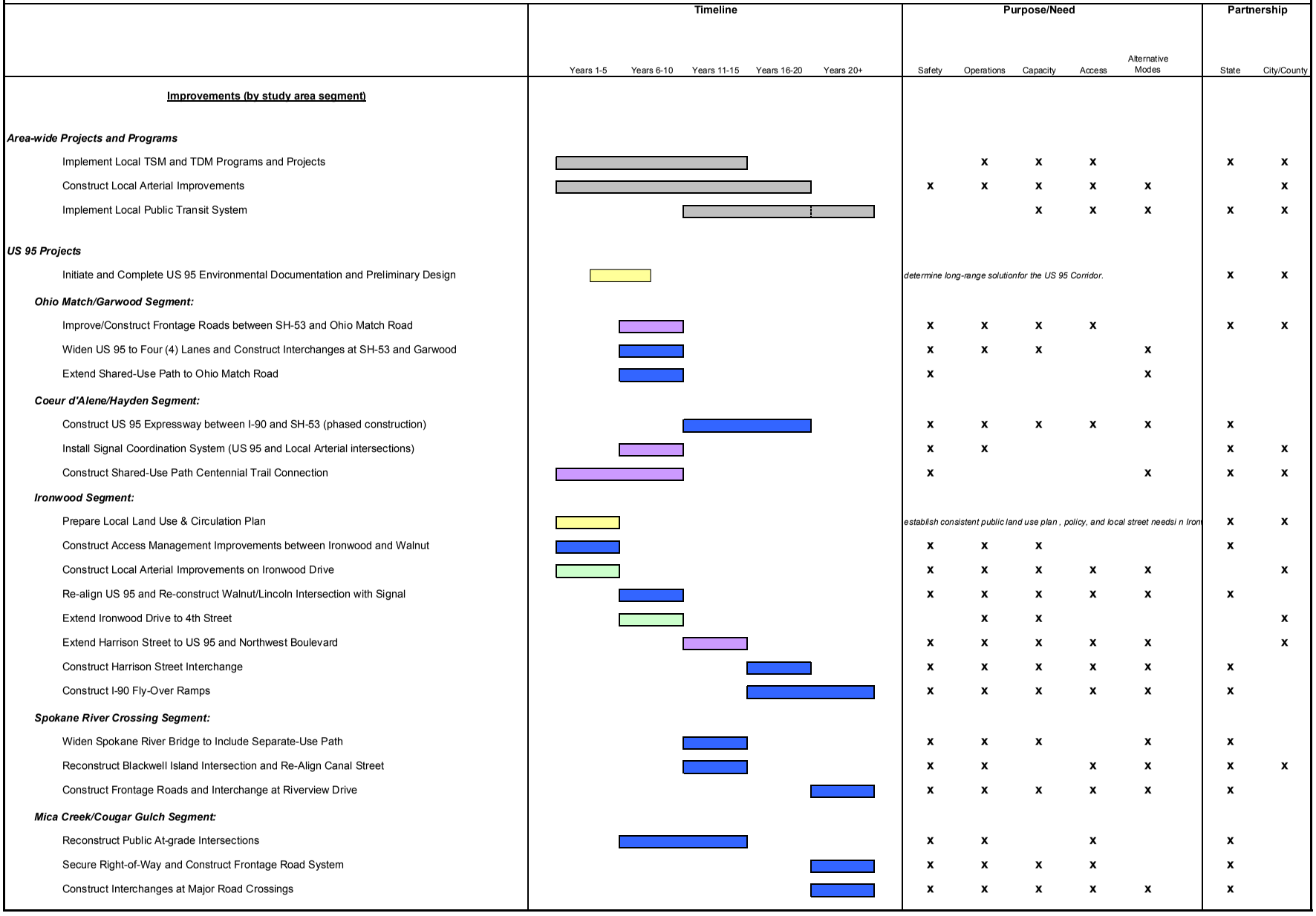
Improvements (by study area segment)	Purpose/Need					Partnership	
	Safety	Operations	Capacity	Access	Alternative Modes	State	City/County
Area-wide Projects and Programs							
Implement Local TSM and TDM Programs and Projects		X	X	X		X	X
Construct Local Arterial Improvements	X	X	X	X	X		X
Implement Local Public Transit System			X	X	X	X	X
US 95 Projects							
Initiate and Complete US 95 Environmental Documentation and Preliminary Desig	*determine long-range solutionfor the US 95 Corridor.*					X	X
Ohio Match/Garwood Segment:							
Improve/Construct Frontage Roads between SH-53 and Ohio Match Roa	X	X	X	X		X	X
Widen US 95 to Four (4) Lanes and Construct Interchanges at SH-53 and Garwoo	X	X	X		X		
Extend Shared-Use Path to Ohio Match Roac	X				X		
Coeur d'Alene/Hayden Segment:							
Modify Local Comprehensive Plans and Secure Huetter Route Right-of-Wa	*establish consistent public land use policy and secure needed right of way*					X	X
Construct Huetter Route Expressway between I-90 and SH-5	X	X	X	X	X	X	X
Widen US 95 to Six (6) Travel Lanes	X	X	X			X	
Install Signal Coordination System (US 95 and Local Arterial intersections	X	X				X	X
Construct Shared-Use Path Centennial Trail Connectio	X				X	X	X
Ironwood Segment:							
Prepare Local Land Use & Circulation Plai	*establish consistent public land use plan , policy, and local street needsi n Ir*					X	X
Construct Access Management Improvements between Ironwood and Waln	X	X	X			X	
Construct Local Arterial Improvements on Ironwood Drive	X	X	X	X	X		X
Re-align US 95 and Re-construct Walnut/Lincoln Intersection with Sigr	X	X	X	X	X	X	
Extend Ironwood Drive to 4th Stree		X	X				X
Extend Harrison Street to US 95 and Northwest Boulevar	X	X	X	X	X		X
Spokane River Crossing Segment:							
Widen Spokane River Bridge to Include Separate-Use Pat	X	X	X		X	X	
Reconstruct Blackwell Island Intersection and Re-Align Canal Stre	X	X		X	X	X	X
Construct Southern Extension of Huetter Expressway from I-90 to US 9	X	X	X	X	X	X	
Mica Creek/Cougar Gulch Segment:							
Reconstruct Public At-grade Intersections	X	X		X		X	
Secure Right-of-Way and Construct Frontage Road Systen	X	X	X	X		X	
Construct Interchanges at Major Road Crossings	X	X	X	X	X	X	

KEY: Studies and ROW acq. Project Development: **ITD** **Local** **Joint**

Potential Implementation Strategy

FIGURE 6-40B

Option "B": US 95 Expressway



Potential Implementation Strategy

FIGURE 6-40C

Option "C": US 95 Expressway and Huetter Road Right of Way Preservation (Consutant Finding)

	Timeline					Purpose/Need					Partnership	
	Years 1-5	Years 6-10	Years 11-15	Years 16-20	Years 20+	Safety	Operations	Capacity	Access	Alternative Modes	State	City/County
Improvements (by study area segment)												
Area-wide Projects and Programs												
Implement Local TSM and TDM Programs and Projects							X	X	X		X	X
Construct Local Arterial Improvements						X	X	X	X	X		X
Implement Local Public Transit System								X	X	X	X	X
US 95 Projects												
Initiate and Complete US 95 Environmental Documentation and Preliminary Design						*determine long-range solutionfor the US 95 Corridor.*					X	X
Ohio Match/Garwood Segment:												
Improve/Construct Frontage Roads between SH-53 and Ohio Match Road						X	X	X	X		X	X
Widen US 95 to Four (4) Lanes and Construct Interchanges at SH-53 and Garwood						X	X	X		X		
Extend Shared-Use Path to Ohio Match Road						X				X		
Coeur d'Alene/Hayden Segment:												
Modify Local Comprehensive Plans and Secure Huetter Route Right-of-Way						*establish consistent public land use policy and secure needed right of way*					X	X
Construct US 95 Expressway between I-90 and SH-53 (phased construction)						X	X	X	X	X	X	
Upgrade Huetter Road to Artterial and Construct I-90 Interchange						X	X	X	X	X	X	X
Construct Huetter Route Expressway and Interchanges between I-90 and SH-53						X	X	X	X	X	X	X
Install Signal Coordination System (US 95 and Local Arterial intersections)						X	X				X	X
Construct Shared-Use Path Centennial Trail Connection						X				X	X	X
Ironwood Segment:												
Prepare Local Land Use & Circulation Plan						*establish consistent public land use plan , policy, and local street needsi n Ironwo*					X	X
Construct Access Management Improvements between Ironwood and Walnut						X	X	X			X	
Construct Local Arterial Improvements on Ironwood Drive						X	X	X	X	X		X
Re-align US 95 and Re-construct Walnut/Lincoln Intersection with Signal						X	X	X	X	X	X	
Extend Ironwood Drive to 4th Street							X	X				X
Extend Harrison Street to US 95 and Northwest Boulevard						X	X	X	X	X		X
Construct Harrison Street Interchange						X	X	X	X	X	X	
Construct I-90 Fly-Over Ramps						X	X	X	X	X	X	
Spokane River Crossing Segment:												
Widen Spokane River Bridge to Include Separate-Use Path						X	X	X		X	X	
Reconstruct Blackwell Island Intersection and Re-Align Canal Street						X	X		X	X	X	X
Construct Frontage Roads and Interchange at Riverview Drive						X	X	X	X	X	X	
Mica Creek/Cougar Gulch Segment:												
Reconstruct Public At-grade Intersections						X	X		X		X	
Secure Right-of-Way and Construct Frontage Road System						X	X	X	X		X	
Construct Interchanges at Major Road Crossings						X	X	X	X	X	X	

KEY: Studies and ROW acq. Project Development: ITD Local Joint